a W. R. C. Smith publication

Textile Industries

Formerly "COTTON"

FEBRUARY, 1956

Purchasing For Textile Mills
(begins on page 117)
A special, 32-page section which contains information that should be helpful to mill men who do purchasing and to salesmen who call on them.

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New Equipment Parade 201-213

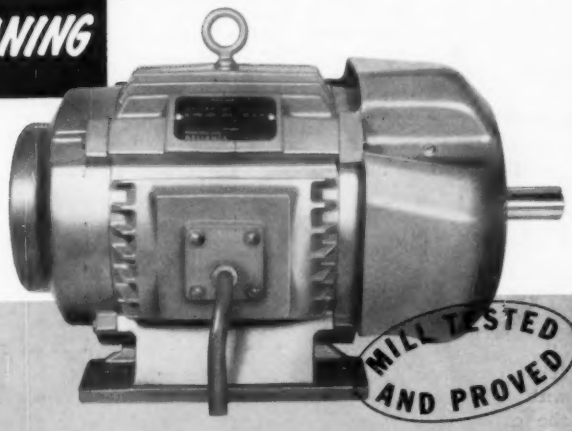
Complete contents on page 3

NO MORE MOTOR CLEANING

The *new* Reliance Lint-Proof Textile Motor is totally enclosed, positively eliminating lint-clogging. Lint-filled air cannot penetrate the sealed motor housing, and the high velocity cooling fan blasts lint off the outside of the motor.

It will pay you to try these new textile motors and see how they cut operating costs by eliminating motor cleaning.

Now available—1-20 hp. general purpose, air-cooled textile motor for application on spinning, roving, drawing, and twisting frames . . . and on cards, openers, pickers, and other textile machines. B-1508-A



IT'S LINT-PROOF

RELIANCE Totally Protected MOTORS

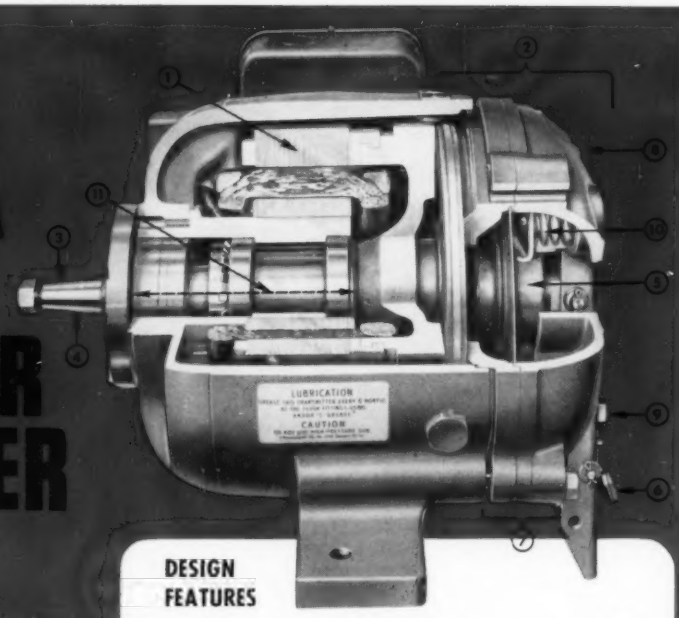
RELIANCE ELECTRIC AND ENGINEERING CO.
CLEVELAND 10, OHIO • OFFICES IN PRINCIPAL CITIES
Canadian Division: Welland, Ontario

Here it is!

THE NEW DIEHL "BA" POWER TRANSMITTER

For Draper Looms

Exclusive new design features mean . . . *consistent* quality production . . . *peak* operating efficiency . . . minimum maintenance, labor and costs!

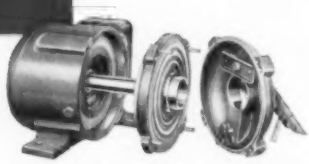


DESIGN FEATURES

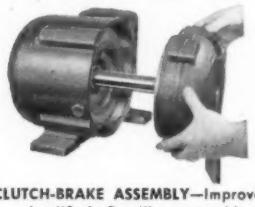
*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.

STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)



CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

The original and only loom power transmitter . . . plus many new and outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The new "BA" Power Transmitter is even *more* compact, more streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive new design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

plus these outstanding New Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

** Exclusive feature—patent protected.*

Diehl

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

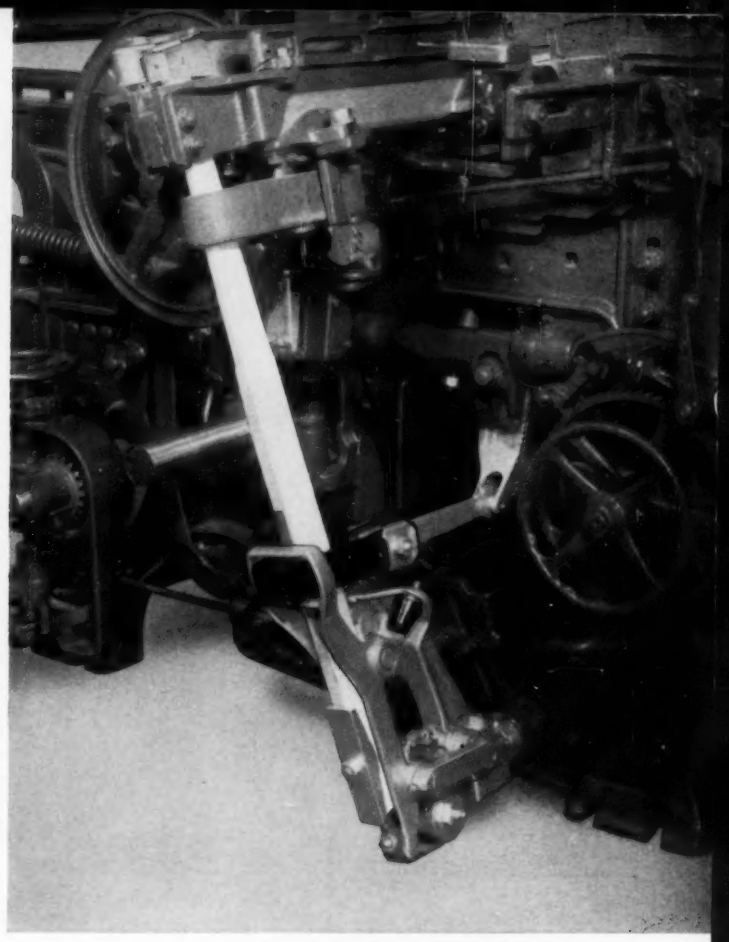
Finderne Plant, SOMERVILLE, NEW JERSEY

ATLANTA • BALTIMORE • CHARLOTTE, N. C. • CHICAGO • CINCINNATI • DETROIT • MILWAUKEE • NEEDHAM, MASS. • NEW YORK • PHILADELPHIA • PITTSBURGH

NEW DRAPER LINKAGE PARALLEL ASSEMBLY

IMPROVES LOOM OPERATION

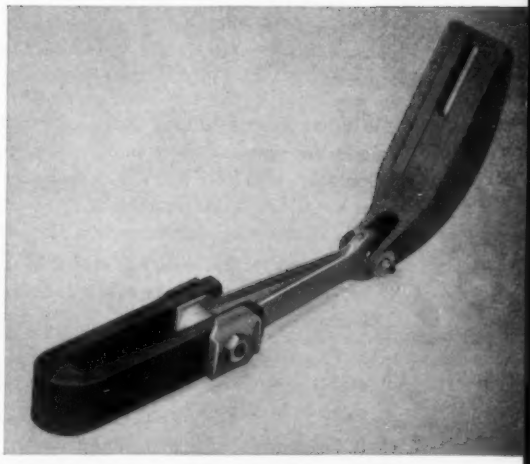
CUTS MAINTENANCE COST



Extensive mill trials prove the Draper Linkage Parallel Assembly results in a more uniform, controlled picking action. This parallel assembly eliminates "jump" and "play" in the picker stick . . . improves overall loom operation and reduces wear on pick motion and parallel parts.

A fixed power block position allows more uniform power settings to be maintained. Clamp-fit of the assembly on the rocker shaft permits easy, fast application. *Picker sticks may be replaced without altering Parallel settings.*

For complete details on this *cost* and *labor-saving mechanism,* contact your nearest Draper representative or write:

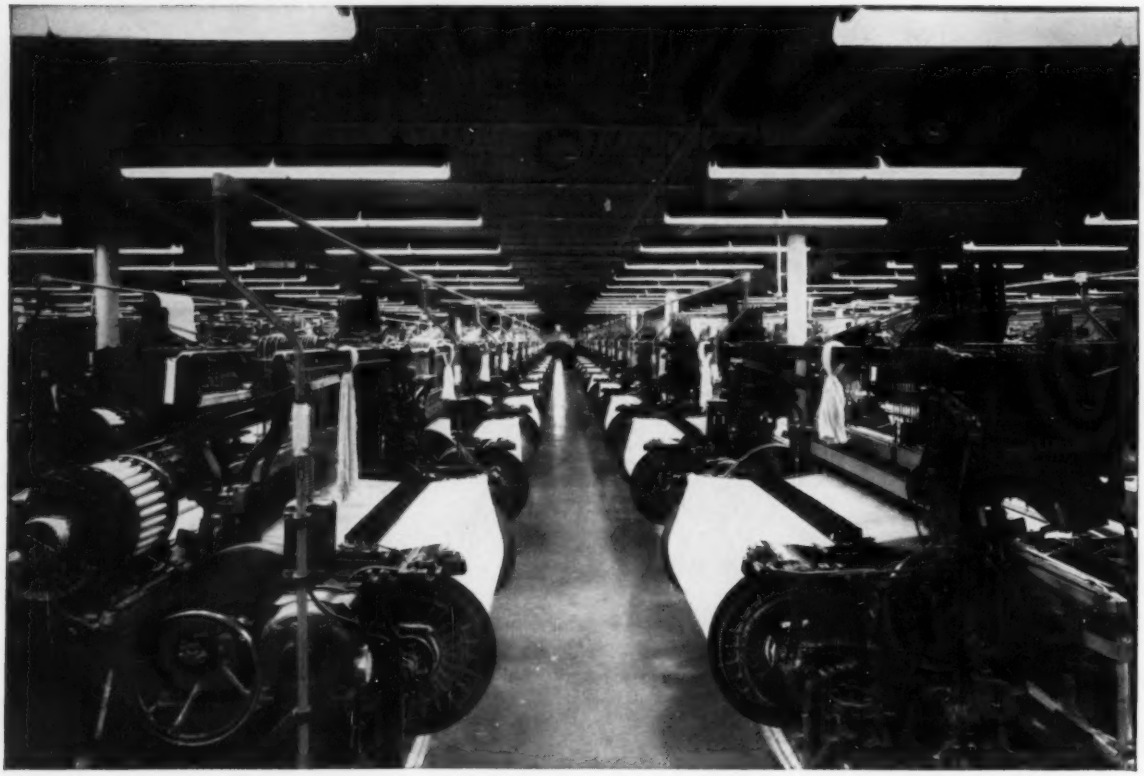


New aluminum pick arm and lug strap connection is recommended for above installation.

DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.



STAZON . . . for better and longer lasting loom lubrication

What loom lubricant lasts longest per application? You can find the answer in any leading mill. Operators who have had wide experience with various brands of lubricants will tell you the answer is *Texaco Stazon*. And here are the reasons why:

1. *Texaco Stazon* does not creep, drip or splatter—even under the severest loom operation. Naturally, it lasts longer.

2. *Texaco Stazon* contains a special colloidal stabilizer which assures effective lubrication even in high humidity.

3. *Texaco Stazon* minimizes wear, assuring longer bearing life.

4. *Texaco Stazon* assures normal operating temperatures.

5. *Texaco Stazon* maintains low machine power consumption.

In spinning, *Texaco Stazon* is ideal for top roll lubrication. It stays off the cots, assuring cleaner yarn.

Let a Texaco Lubrication Engineer give you full information. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN: TEXACO STAR THEATER starring JIMMY DURANTE on TV Sat. nights. METROPOLITAN OPERA radio broadcasts Sat. afternoons.

NBP BPA

Textile Industries

Formerly "COTTON"

Vol. 120, No. 2
February, 1956

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"For delivery of carpet cores right on schedule... best folks we ever dealt with"

Even the best of mills get caught "short" at times—and that's when we show you what *service* really means! Overnight delivery to practically any point in the South and Southwest. Your most reliable and economical source. Call, wire, write!

Textile Paper Products, Inc.

Cedartown, Ga. / *Crossett, Ark.*

Manufacturers of better Convolute and Spiral Wound Cloth Tubes, Carpet and Rug Cores, Yarn Tubes, Cloth Winding and Baling Boards, Beaming and Carlining Paper.

Two plants to serve you. Prompt delivery by our own fleet throughout the South and Southwest.

Shorts and Remnants

By J. C. C.

► For a lil' ole short month February has a lot crammed into it, such as Abraham Lincoln's birthday and old Abe believed in freedom for everyone, just as old S&R does — freedom for everyone to advertise in and read the world's best textile magazine. Then there is St. Valentine's Day, and we have to admit we love this here magazine and our heart is right in it. So with old George Washington, we cannot tell a lie — he was "first in war, first in peace, and first in the hearts of his countrymen." TEXTILE INDUSTRIES is first in editorial readership, first in advertising response, and first in the hearts of our readers.

► Sounds like bragging, so we'll just say that you can look over the PURCHASING article in this issue. That's important for everyone in textiles — millmen and suppliers alike. In big mills and groups purchasing gets more complicated all of the time, but in smaller plants it is still a matter of finding machinery, equipment, and supplies to do the best job at a price that will pay off. S&R believes textiles are tough to sell and want the pay off in less time than most industries, but then textiles are basic with pressure from every side to keep prices of goods down.

► Friend of ours, Gerry Meynell of American Cyanamid Co., thinks what textiles need is "more sell" and sends us a copy of "Dyelines and Bylines" expanding this theme. We will go for that, especially if he will run that in our ad pages. We have been stressing that ourselves.

► While you are figuring on the PURCHASING angle (and we hope you like it), just remember there has to be a salesman and we understand that

80% of sales are made after the fifth call
48% of salesmen give up after the first call
25% call twice and quit
12% call three times and quit
10% keep calling
10% of the salesmen make 80% of the sales.

Don't ask us where we read this, but

Photo courtesy Cotan Division, Interchemical Corporation, Newark, N. J.

Now—it's "Wall-Plastic"

The scene above illustrates a new, momentum-gathering field of application for vinyl resins—the fast-growing trend from wallpaper to "wall-plastic."

The material being shown is *Cohyde* – a plastic coated fabric which through its three-dimensional beauty and durability is outstanding as a wall covering. And it is made with a plastisol based on PLIOVIC AO—the Goodyear vinyl resin especially designed for use in dispersions.

PLIOVIC AO is used in this premium-quality covering because it can be processed at relatively low temperatures. This in turn, affords greater uniformity and better physical properties in the end product, by virtue of a shorter heat history.

What can PLIOVIC AO do for you in the manufacture of wall coverings or any of the many other coated fabric products? Why not find out by writing to: Goodyear, Chemical Division, Dept. N-9439, Akron 16, Ohio.

Cohyde—T. M. Interchemical Corporation, New York, N. Y.

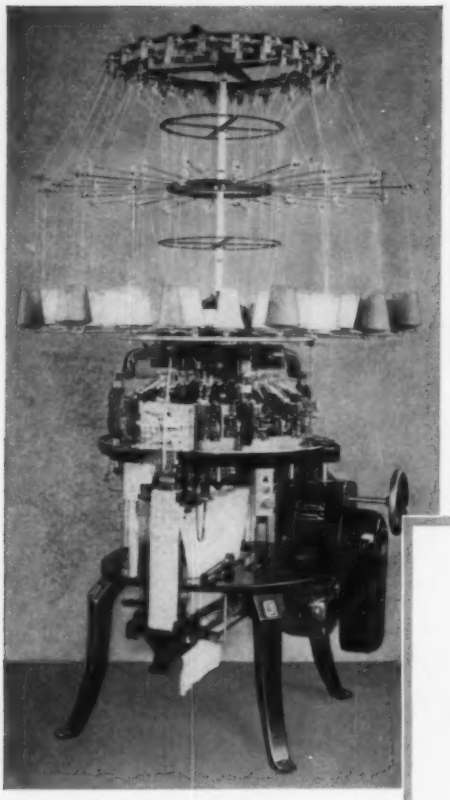
CHEMICAL
GOODYEAR
DIVISION

Plastics Department

Chemigum, Plioflex, Pliolite, Plio-Tuf, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

CHEMIGUM • PLIOFLEX • PLIOLITE • PLIO-TUF • PLIOVIC • WING-CHEMICALS

High Polymer Resins, Rubbers, Latices and Related Chemicals for the Process Industries



Savings
are built into this
CIRCULAR "JACQUARD" KNITTING MACHINE—

with BIJUR AUTOMATIC LUBRICATION

Here's another example of a textile industry lubrication problem solved by Bijur!

The important elements of practically all new Circular "Jacquard" Knitting Machines are protected—*automatically*—by Bijur Lubrication. In these high speed knitting machines, Bijur simultaneously lubricates the dial needles and the cylinder needles—*plus* the gears in the main drive.

Beside reducing the annoying problem of broken needle butts, this unique equipment has extended, *by months*, the life of gear teeth in the drive assembly! Yet this Bijur Lubrication System . . . like hundreds of others in use throughout the textile field—is simple, completely automatic. It uses the machine itself as its sole source of power. Only a minute a day is required to fill the oil reservoir on each machine.

Either as original equipment or as replacement for outmoded lubricating methods, Bijur Automatic Lubrication is installed readily, and saves time, money and labor. For more facts about the Bijur Automatic Lubrication System that meets the exact needs of your application, send for our bulletin, "From Fibre to Fabric."

BIJUR
LUBRICATING CORPORATION
Rochelle Park, New Jersey

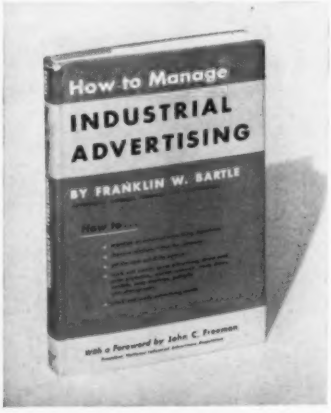
Pioneers in Automatic Lubrication

Shorts and Remnants

it seems to go with a PURCHASING issue.

► For 1956 sales of cloth and textile products should continue good, and also sales of machinery and supplies should continue good. Maybe it won't be as tough for the salesmen as pictured above. Mrs. Mildred Andrews, press agent of the American textile machinery industry, sends out a news release that "members of the American Textile Machinery Association in an opinion poll of their business future were in accord that better business is expected in 1956 compared to 1954 and 1955. The improved outlook in the textile industry has alerted them to probable large scale modernization programs on the part of the mills that will mean increased textile machinery production . . . Review and forecast comment is that 1955 has been considerably better for manufacturers of capital equipment for textile mills . . . Some companies state that they will enter 1956 with a larger backlog of orders than any year since 1951. . . ."

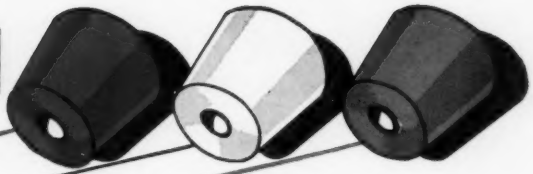
► Since selling and advertising go hand in hand, maybe some of our readers will be interested in a basic book on advertising put out by Frank Bartle of Permacel Tape, which is a subsidiary of a good textile firm, Johnson & Johnson, of New Brunswick, N. J., and points North and South. Pictured below is Frank's book

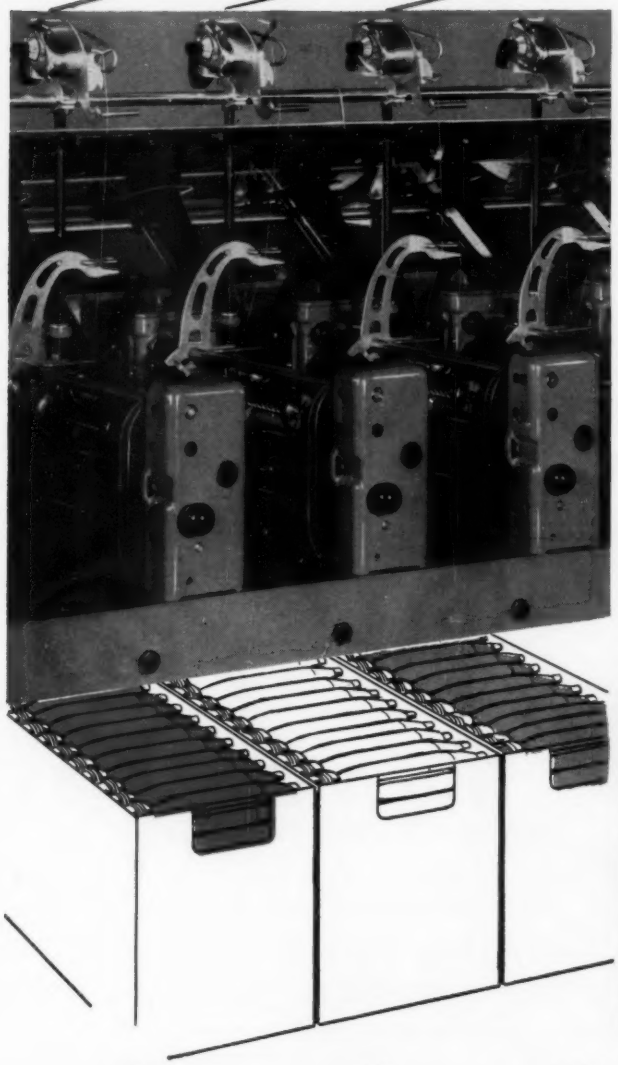


which is available at your local bookstore if you want to study advertising.

► In our current mail comes a request from **Thos. E. Barlow,** Amato Textiles, Benoni, Transvaal, South

AUTOCOPSER





The World's Most

VERSATILE QUILLER

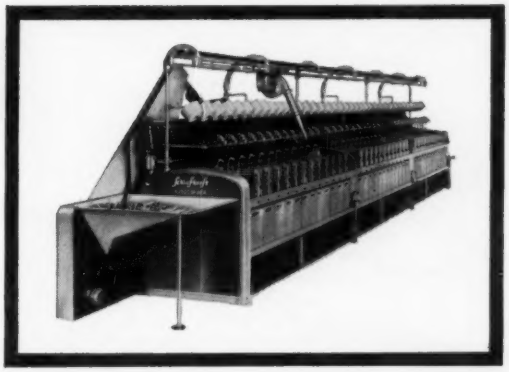
Textile Mills problem No. 1 in a buyers' market:

ONE STYLE TODAY . . . . . .

***ONE HUNDRED* STYLES TOMORROW . .**

Only with the AUTOCOPSER in your quiller room can you follow the market trends at maximum efficiency, and lowest possible costs.

Write today to The Terrell Machine Co., Charlotte, N. C. for booklets explaining the outstanding features of the AUTO-COPSER!



Schlafhorst

AUTOCOPSER

First Name in Automatic Quillers the World Over

SOLD AND SERVICED BY THE TERRELL MACHINE COMPANY, INC., 3000 S. BLVD., CHARLOTTE, N. C.

DESIZING UNIFORMITY

TIME AFTER TIME WITH

RHOZYME LA*

RHOZYME LA is the most dependable desizing enzyme now available to the textile industry.

RHOZYME LA has consistent high quality, is stable in storage, and also exhibits unusual heat resistance in high-speed, high-temperature operations.

For the full story on this low cost, highly efficient agent, write for our technical bulletin.

* **RHOZYME LA** *is another dependable chemical product for the textile industry made by the makers of* LYKOPON.

RHOZYME *and* LYKOPON *are trade-marks, Reg. U.S. Pat. Off. and in principal foreign countries.*

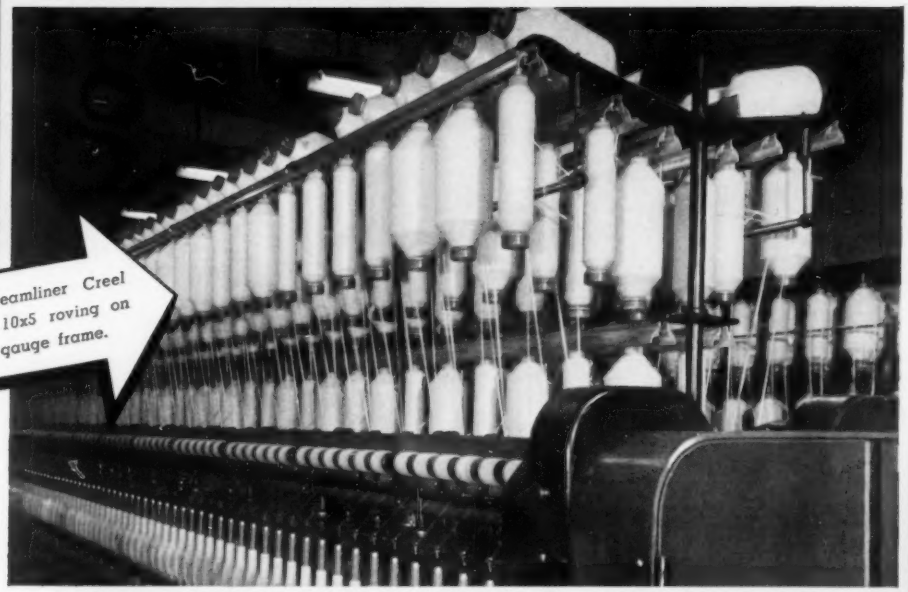
CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

MODERNIZE SPINNING



Note the Streamliner Creel with double 10x5 roving on this 3¼" gauge frame.

ROBERTS HIGH DRAFT

Simplest All variables eliminated. No bearing gadgets, springs, pivots, or other elements to vary from spindle to spindle or month to month.

Most Effective Concentrated tests prove higher break factors, lower ends down, better yarn evenness and greater consistency of performance.

Least Expensive The simple combination of gadget-free elements provide a lower first cost and the lowest maintenance cost.

ROBERTS HIGH DRAFT
SPINNING MODERNIZATIONS

- Partial or complete Drafting System Changeovers
- Increased Draft Constant and Hardened Draft Gearing
- Streamliner Creels for Larger Packages
- Ball bearing Cylinders and Tape Tension Pulleys
- Increased Traverse on Bobbin
- Roller Bearing Spindles
- Rings and Ring Holders
- Inspection and Replacement of all other Parts

ROBERTS HIGH DRAFT
DRAFTING SYSTEM

- a true double apron system
- a simple, uncluttered drafting system with all variable elements omitted
- the narrowest possible cradles, aprons and cots consistent with the gauge
- positively set and maintained top roll settings
- proper and unchanging weight distribution
- elimination or reduction of top roll and bottom roll lubrication
- strengthening of the draft gearing by use of hardened gears and studs plus increase in head-end roll neck diameters.

In addition to supplying all or any part of the above modernization material, we can provide a complete "turnkey job" including all installation and erection. The experience gained in the installation of more than 2 million spindles of Roberts High Draft is available to you on the smallest Changeover or the most complete Modernization.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

HOW *Norgren* MICRO-FOG LUBRICATION

PROLONGS TEXTILE MACHINE LIFE

. . . Reduces wear on bearings - gears - chains - slides - ways - cams

Model 30-40-2S
32 Bearing Inch
1/3 pt. Oil Capacity

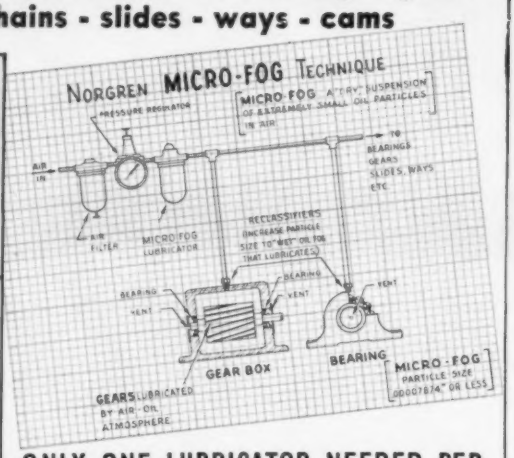
Model 30-41-2S
32 Bearing Inch
½ pt. Oil Capacity

Series S3406
32, 200, 300 Bearing Inch
1 qt. Oil Capacity

Series X3400
32, 200, 300 Bearing Inch
1¾ gal. Oil Capacity

Series Y3400
32, 200, 300 Bearing Inch
4½ gal. Oil Capacity

Model 33AB-4
1000 Bearing Inch


NORGREN MICRO-FOG TECHNIQUE
PRESSURE REGULATOR
MICRO-FOG A FINE SUSPENSION OF EXTREMELY SMALL OIL PARTICLES IN AIR
AIR IN
TO BEARINGS GEARS SLIDES, WAYS ETC
AIR FILTER
MICRO-FOG LUBRICATOR
RECLASSIFIES (INCREASE PARTICLE SIZE TO "BEST" OIL FOR THAT LUBRICATES)
BEARING VENT
BEARING VENT
GEAR BOX
BEARING
MICRO-FOG PARTICLE SIZE .00007874" OR LESS
GEARS LUBRICATED BY AIR-OIL ATMOSPHERE

ONLY ONE LUBRICATOR NEEDED PER MACHINE Norgren MICRO-FOG can be uniformly distributed through a complex piping system to multiple lubrication points. One lubricator can completely lubricate all parts of a machine. Norgren has a wide assortment of lubricators with maximum capacities up to 1000 bearing inches.

BETTER LUBRICATION Norgren MICRO-FOG automatically supplies just the right amount of oil for lubricating machine components — no more, no less.

PROTECTION FROM LINT The slight air pressure in bearing or gear housings prevents entry of lint or foreign material.

MINIMUM USE OF AIR The advanced design of Norgren MICRO-FOG Lubricators makes possible complete textile machine lubrication with a minimum of air consumption.

PRECISE CONTROL OF LUBRICATION The delivery of Norgren MICRO-FOG to machine parts is precisely controlled. MICRO-FOG is delivered at a uniform rate regardless of the supply of oil in the reservoir.

LOWER BEARING TEMPERATURES Air borne Norgren MICRO-FOG maintains a lower operating temperature for textile machine parts —reducing wear, improving performance, increasing machine life.

VISIBLE OIL FLOW 360° visibility of oil flow simplifies adjustment of oil feed rate, and provides visual assurance that the lubricator is operating.

Without obligation, learn how Norgren MICRO-FOG can reduce costs in your plant. Call your nearby Norgren Representative listed in your telephone directory—or **WRITE THE FACTORY FOR NEW No. 700 CATALOG.**

C.A. Norgren CO.

3450 So. Elati Street, Englewood, Colorado

Pioneer and Leader in Oil-Fog Lubrication Since 1930

Shorts and Remnants

Africa, for booklets listed in TI December 1948. Mail is a little slow from South Africa, but readers nearer home accounted for over 12,500 such requests from 1955 issues. We hope you keep it up. If you don't see it, ask for it.

► Some folks, such as **Ti Ke Sian** of Lam Tong, Manila, Philippines, write for complete information with prices on automatic looms, printing machines, dyeing and finishing machines. That is a large order but any of our advertisers who want to do business with Lam Tong go ahead and quote.

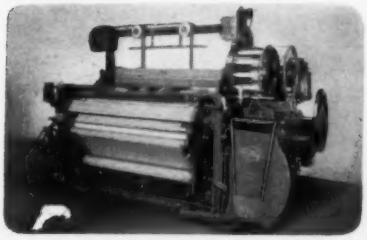
► A little nearer home and more definite **Roy Worth,** Jantzen, Inc., Portland, Ore., wants the name and address of the Wicaco spindle oiler (Philadelphia, Pa.). **Richard L. Hume,** Malvern (Ark.) Cotton Mills, wants to buy Micronaire and other equipment for a new testing lab.

► TI's readers interested in pickling will be interested in noting that $15,000 was saved every month with Oakite Pickle Control #5, or that's what they discussed at the annual technical sales conference of this good advertiser. Textiles came in for discussion too, so here is the conference picture:

► Before we forget, **Burchard M. Day,** Adv. Mgr., Carborundum Company, wrote us a Christmas greeting asking us to refrain from sending gifts to him or his staff. O.K., we will restrain ourselves, but he does say that "our minds and our doors will always be open to ideas that promise new and better ways to help sell our products." So we will send him a nice letter about our "New Equipment Parade." That's a section for you. We hope you all are enjoying it.

► **Lenore Shepardson** of General Industrial Co., Chicago, sends us a complimentary foot warmer with illustration, for use in our basement, workshop, or for our secretary. If you are troubled with cold feet,

Whichever way the wind blows...



Let it blow! It makes no difference if fashion trends change overnight . . . in colors, patterns, constructions, yarns . . . when your weaveroom is protected by C & K's new **M**ulti-**P**urpose Looms. For these unique and all-new looms *can also be changed overnight* to supply any sudden new demands, even including conversion from plain to fancy constructions, or vice versa.

It's as simple as this: You can't buy better insurance for your mill (or your P & L statement) than these completely versatile **M-P** Looms. *Call C & K today.*

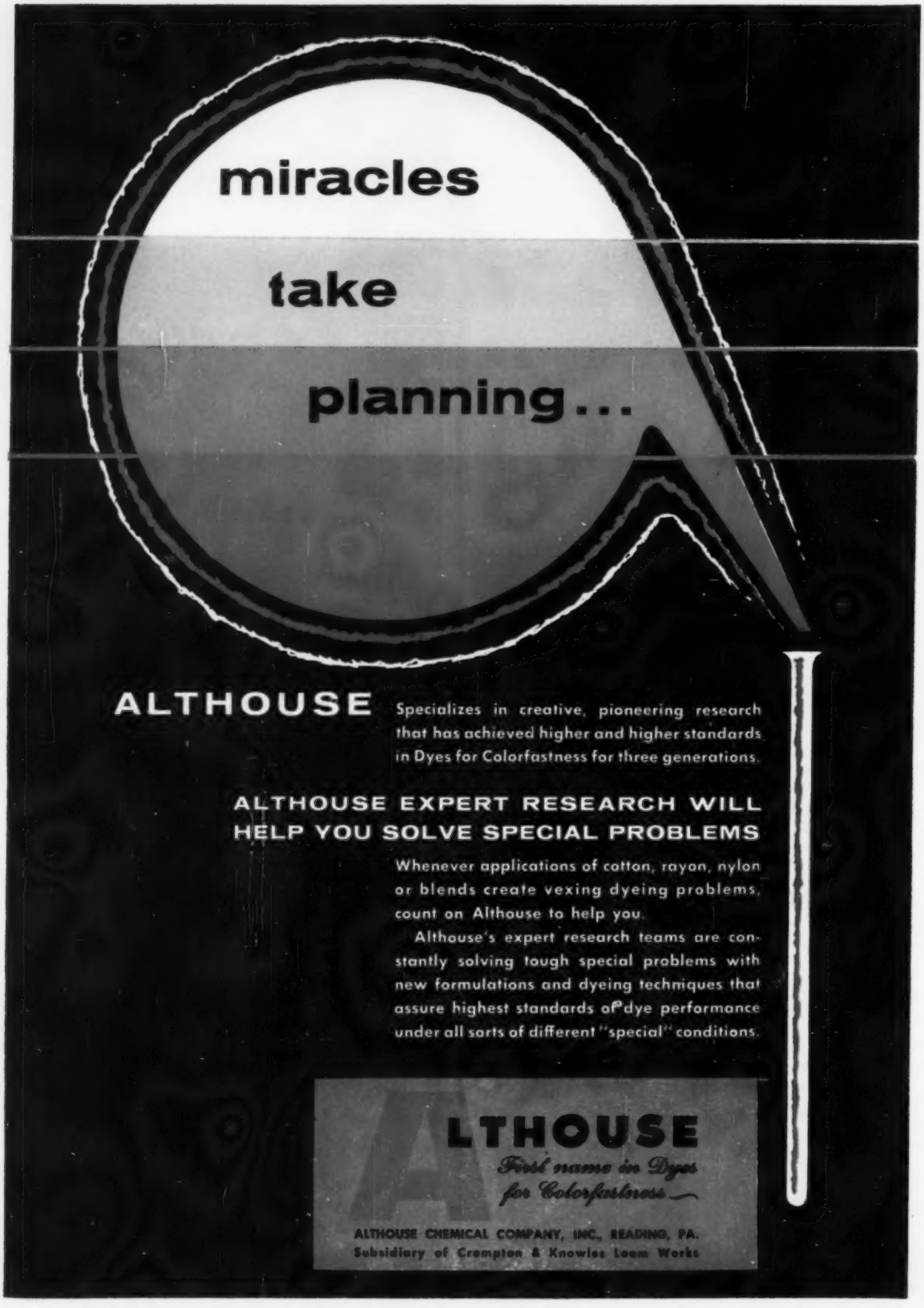
CROMPTON & KNOWLES *Loom works*

WORCESTER 1, MASSACHUSETTS, U.S.A.

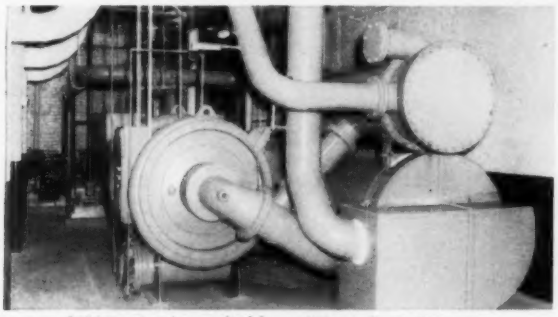
CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.

Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

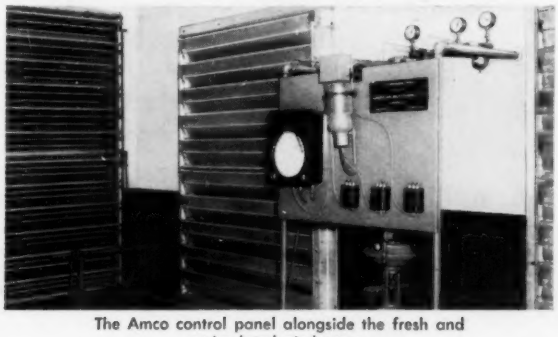
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.


miracles
take
planning...
ALTHOUSE
Specializes in creative, pioneering research that has achieved higher and higher standards in Dyes for Colorfastness for three generations.
ALTHOUSE EXPERT RESEARCH WILL HELP YOU SOLVE SPECIAL PROBLEMS
Whenever applications of cotton, rayon, nylon or blends create vexing dyeing problems, count on Althouse to help you.
Althouse's expert research teams are constantly solving tough special problems with new formulations and dyeing techniques that assure highest standards of dye performance under all sorts of different "special" conditions.
ALTHOUSE
First name in Dyes for Colorfastness
ALTHOUSE CHEMICAL COMPANY, INC., READING, PA.
Subsidiary of Crompton & Knowles Loom Works

Card room at Highland Park Mfg. Co., Mill No. 1, Charlotte, N. C. Ductwork and zone control atomizers are part of Amco's central station system, designed by J. E. Sirrine Company for the entire mill.



Refrigeration is supplied by a 350-ton Trane Centravac unit located in the basement.



The Amco control panel alongside the fresh and recirculated air louvers.

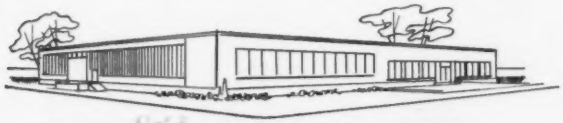
This ECONOMICAL split-system by Amco

provides thoroughly conditioned air, with maximum operating efficiency

Whether your need is for one room, or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification alone; or in combination with cooling, such as in the ductless evaporating cooling system; unit dry-duct systems; or central station systems.

The central station system Amco recently completed at Highland Park Mill is a good case in point. In order to effect savings, it was felt advisable not to install the excess air capacity found in conventional design. Instead, Amco installed a "hand tailored" split system using a smaller central station unit augmented by room atomizers, thus reducing both initial cost and operating cost. This system provides complete control with even greater flexibility of operation. Savings have been substantial.

Amco engineers will be glad to work out a solution to any problem you may have. Next time call on Amco for reliable advice. There is absolutely no obligation.



New Cleveland Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C., for the fabrication of duct work and sheet metal products.

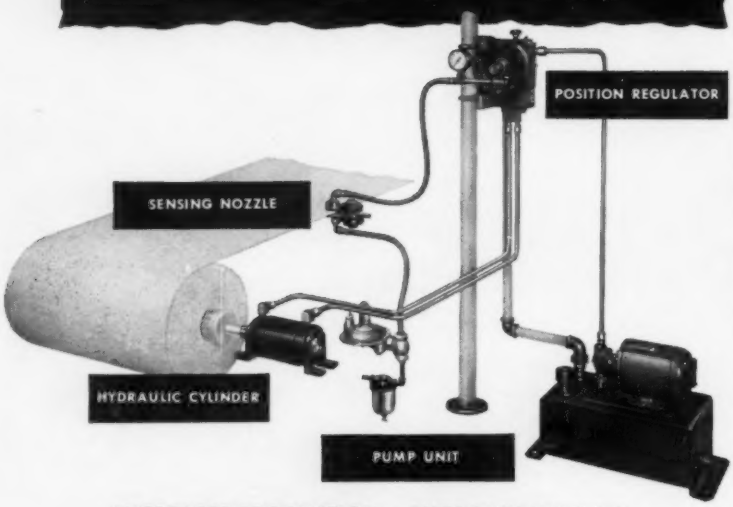
AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY PROVIDENCE R. I. • ATLANTA GA. • BOSTON, MASS. • CAMDEN N. J. • CLEVELAND N. C.

NOW

ASKANIA
Cloth Guide Control for LIGHTER DUTY SERVICE



INCREASES PRODUCTION • IMPROVES QUALITY
REDUCES COST • INSTALL IT YOURSELF • MAINTAIN EASILY
OPERATE IN ANY MILL

• Now *automatic* cloth guide control can be used with the small textile machine to get the *same* production increase, cost reduction and improved quality already obtained with larger equipment...and at a lower investment cost!

A VERSATILE PACKAGE

The Model "500" ASKANIA Edge Guide is furnished as a complete package designed and engineered specifically for use on small equipment. It provides accurate edge control on pay-off, windup or steering rolls. It can be applied to *any* size warp on a small machine in *any* mill. Your own mill mechanics can install it! Your own equipment is the only limit to the accuracy you can obtain. *The precision with which examining, slitting and other operations are regulated is a major production factor.* Perfect alignment at high speed is a feature that means greater profit in your mill.

Nothing contacts the moving warp. A *jet of air* actuates the controller. The exclusive ASKANIA cloth guide measures warp errors of less than .005 of an inch, converts the air stream into a hydraulic force that applies the work cylinder to the job.

You'll want further information. Write for Bulletin No. 166, Askania Regulator Company, 260 East Ontario Street, Chicago, Ill.

ASKANIA REGULATOR COMPANY

"CONTROLS FOR INDUSTRY"

HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS

A Subsidiary of General Precision Equipment Corporation

Shorts and Remnants

there's a tip for you.

► Football and basketball players are not the only ones getting scholarships. Somewhere we saw a chart of all the scholarships being sponsored by big corporations to develop scientists and engineers. Closer home (see picture below) **Russell Ashton Waters** (left), Sylvania, Ga., came in

for the first scholarship fund of the Southeastern Section of the AATCC. Other sections are starting this practice also. Russell smiles as **H. Gillespie Smith** (right) of American Cyanamid Company, and chairman of the committee, hands him a check. **Howard McCamy** of Pepperell Mfg. Co., Lindale, Ga., and section chairman, looks on.

"One of the Finest"

". . . We were very glad to pass through this contract to Horton Noyes Co. for continuation with TEXTILE INDUSTRIES which we feel is one of the finest textile trade papers there is, and we wish you continued success. . . ."

E. R. JEROME
Pres.
Victor Ring Traveler Co.
Providence, R. I.

► Thank you, Ed, and we appreciate the kind words and the continued business.

Wants Clarification Helanca Yarns

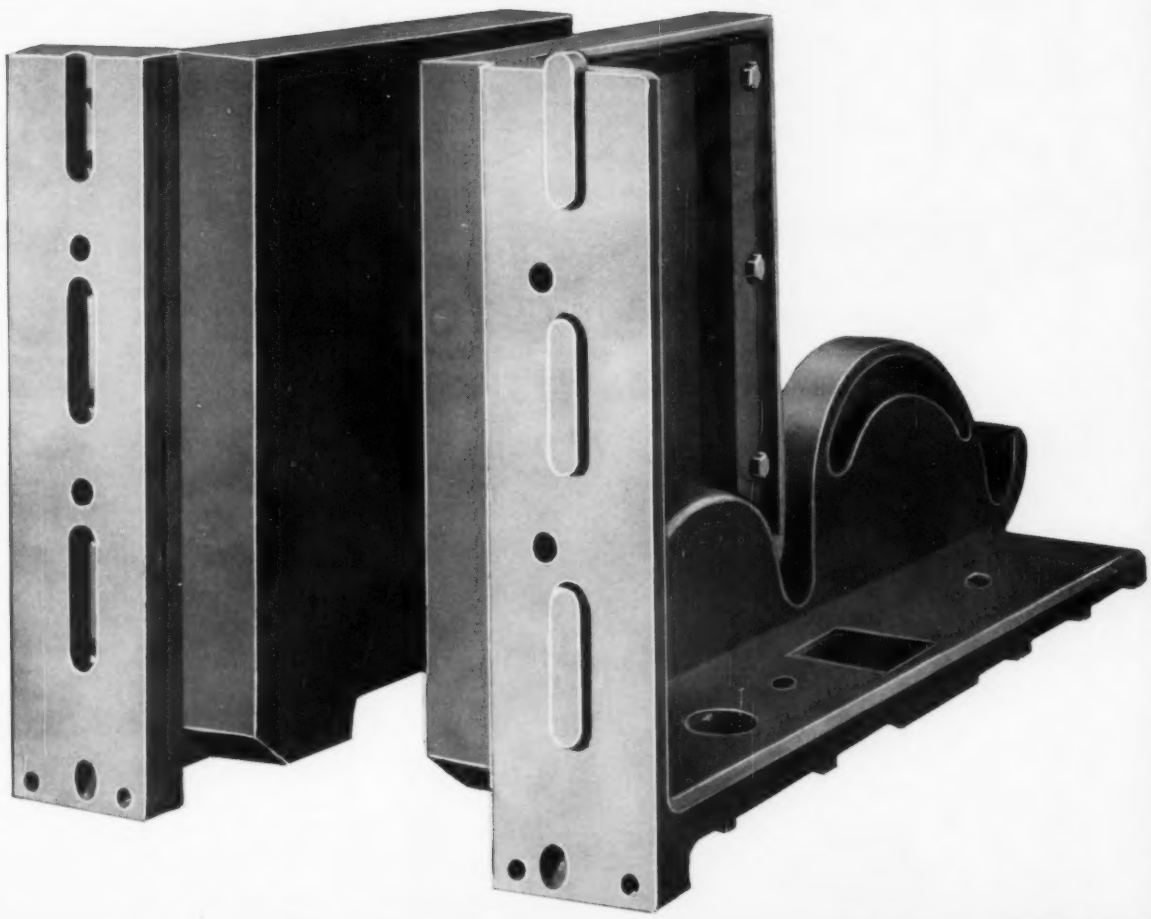
"In the article entitled 'Old Equipment Can Be Adapted To Do New Jobs' . . . you mentioned therein 'Principal yarn used for the panties is Helanca 72' — do you mean Helanca 70 denier 2 ply? In another paragraph you mentioned by using comparatively fine stretch-bulk yarn, Helanca 102 — do you mean Helanca 100 denier 2 ply?"

MAURICE E. MESSIER
Masurel Worsted Mills, Inc.
Woonsocket, R. I.

► Your interpretation of our yarn designation is exactly right, Mr.

Need New Pickers?

. . . then, think of what you get in ALDRICH PICKERS!



To make a good lap, it is important to keep the vertical calender rolls parallel so that they make perfect contact from end-to-end.

Stick a crowbar in one of your calender rolls and see how much you can wiggle it sideways. When the rolls do not make line contact, the lap is pressed too much in the center and not enough at the selvages, which will be puffy.

This is how the Aldrich lap cheeks are recessed for adjustable gibs, which are held in place against the calender roll bearings by set screws with lock nuts.

The Aldrich calender roll bearings are identical within very close limits, and when held firmly in place with the adjustable gibs, assure line contact between the rolls, and proper calendering.

AldricH MachinE WorkS

Greenwood, South Carolina

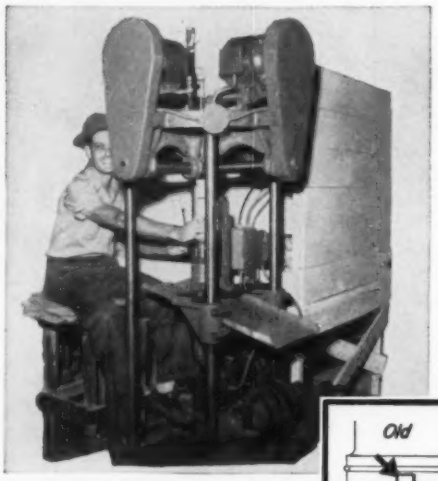
...BUT A SERVICE RECORD WAS BROKEN TOO!

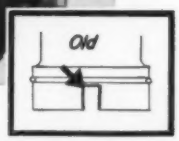
This ABC HAIRON CHECK STRAP gave 9,893 Loom Hours of service on a 32" wide X Model loom running 196 picks per minute.* It's no wonder they're the finest you can buy!

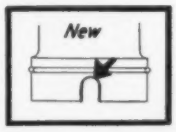
**Name of mill furnished on request.*

ATLANTA BELTING COMPANY
508-510 Whitehall St., S. W., Atlanta, Georgia

MONTICELLO BOBBINS
"Engineered for Service"







Newly designed Milling Machine cuts rounded top Dog Slots which have replaced all sawed Dog Slots on Monticello Card Room Bobbins. This milling cut results in a stronger Bobbin where most splits begin.

MONTICELLO BOBBIN COMPANY
MONTICELLO, GEORGIA

Shorts and Remnants

Messier. Different throwing mills use different designations. A common method is the one used in our article. This, however, is not a complete method of designation as it does not include the number of filaments in the single yarn and the fiber used. A more complete designation would be Helanca nylon 70/34/2, meaning 70 denier, 34 filaments, 2 ply.

Wants 5,000 Reprints Filmtex Article

" . . . We are interested in obtaining approximately five thousand reprints of this article ["Film Is Decorated—Not Fabric" Aug. '55] . . . "

R. H. ROEMER
Gen. Sales Mgr.
Toscony Fabrics, Inc.
New York, N. Y.

Happy to Cooperate

" . . . We are, indeed, happy to cooperate with textile publications such as yours. . . . "

L. E. MOODY
Mgr. Duplan Dyeing Co. Ltd.
Valleyfield, Que., Canada.

Roving to Twisting

" . . . I read an article that would now help me greatly in my work. It was about a Roving Machine that could be changed into a Twisting Machine. . . . "

LEON MARTEL
Stevens Linen Associates
Webster, Mass.

► This article was published in Sept. '51 and not reprinted, but tear sheets were sent.

Wants Data on Intarsia Machine

" . . . Would you please send me the material on . . . [V. I. P.] Intarsia Machines."

EUGENE HALL
The Nolde & Horst Co.
Hickory, N. C.

Request for "Tufted Textiles" Reprints

". . . I should feel greatly obliged if you would kindly let me have four reprints of your article on Tufted Carpets [June '55] . . ."

WM. FUHRHOP
Director,
Fabric Development Co. Ltd., and
Velminster Carpets, Ltd.
Edgware, Middlesex, Eng.

► We are out of reprints of our

YOUR SHUTTLE

Costs Reduced

WITH THE HELP OF

SOUTHERN SHUTTLES

INCREASED LIFE EXPECTANCY

Leading mills throughout the world standardizing on *Southern Durawood* and *Durawald* have found the amount of working loom hours per shuttle phenomenally far beyond ordinary *shuttle life expectancy*. Some users of the Duraweld Shuttle are reporting as high as 7,500 loom hours per shuttle.

In addition, an amazing reduction in shuttle costs through materially lessened maintenance, a tremendous increase in operation efficiency, and greatly improved quality of finished fabrics has been experienced by these mills.

Effect Your Greatest Economy By Buying The Right Product The First Time . . . Buy Stehedco and Southern

Take advantage of the research and engineering facilities this modern shuttle plant has at your disposal by contacting your nearest Southern Shuttles Sales Engineer.

Southern

TEMPERED

QUALITY Stehedco CONTROL

STEHIDE

Shuttles

SOUTHERN SHUTTLES

World's Largest Manufacturer of All Type Shuttles . . . Comparisons Made Them Famous

A Division of Steel Heddle Mfg. Co.

Paris, Greenville, S. C.

TEMPERED DOGWOOD SHUTTLES • DURAWELD AND HICKORY PICKER STICKS
SUPREME REEDS • HARD CHROME ELECTRO PLATING • CASTINGS • STAMPINGS

It's "Southern" for Service and Delivery

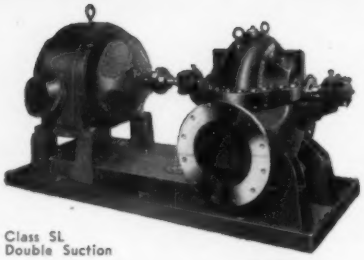
1-R-18

WHICH OF THESE "BUFFALO" PUMPS COULD BE SOLVING YOUR PROBLEMS RIGHT NOW?

(Efficiently—Economically)

CLEAR WATER

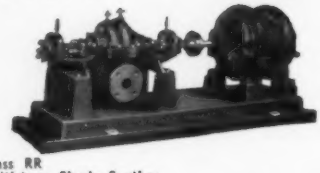
"Buffalo" Double Suction Pumps are the finest example of the "Q" Factor* that gives you the most for your pumping dollar. Hydraulically balanced, highly efficient and durable. In sizes to deliver from 10 to 14,000 gpm for circulating, air conditioning, other plant services. **Request Bulletin 955-Q.**



Class SL
Double Suction

BOILER FEED

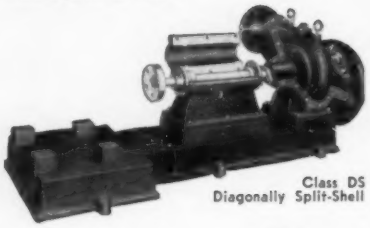
For boiler feed and other clear water service against high pressures, **write for Bulletin 980** and see how efficiently these rugged "Buffalo" Type "RR" Pumps perform. In 2 and 4 stages to handle up to 500 psi. Capacities up to 900 gpm.



Class RR
Multistage Single Suction

PAPER STOCKS

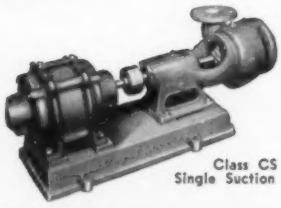
For handling high consistency liquids, you'll save money and trouble with non-clogging "Buffalo" Paper Stock Pumps. Available in alloys or rubber-lined for corrosive and abrasive liquids. A pump for every job described in **Bulletin 953.**



Class DS
Diagonally Split-Shell

CHEMICALS

A complete line of "Buffalo" Pumps, ready to handle corrosive or abrasive liquids at least maintenance cost. Write for **Bulletins 976 and 982.**



Class CS
Single Suction

OTHER PUMPS

"Buffalo" builds Vertical Ejectors, Sewage Pumps, Fire Pumps, Marine Pumps and the husky, space-saving Close-Coupled Pump shown. In short, there's a "Buffalo" Pump for best results in any application you may have in mind. Write us about **your** problem!

Class CCL
Close-Coupled
Write for Bulletin 957-D.

*The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.

"Buffalo" PUMPS

BUFFALO PUMPS

DIVISION OF BUFFALO FORGE COMPANY

175 MORTIMER ST. • BUFFALO, N. Y

Canada Pumps, Ltd., Kitchener, Ont.

Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

Shorts and Remnants

1955 special section on tufteds. Look for #2 in June '56.

Latexes for Decoratives

"Could you please arrange to send us 50 copies of 'Hints on Applying Latexes to Decorative Fabrics' [Nov. '55] . . ."

F. D. ANDRUSS
General Latex & Chemical Corp.
Cambridge 39, Mass.

Denver Knitting Fixer Wants Banner Data

"I am a fixer in a knitting mill here in Denver. . . . I am particularly interested in the fixing of the Banner SCP and SCOP machines and would like to know if you have any information available. . . . "

YOSHIO HORA
Denver, Colorado

1955 Index of Articles in TI

"Please put this Library down for the usual extra 24 copies of your annual index when published. We have been getting these from you for the past three years, for distribution to mill managers, foremen, and others. . . ."

LIBRARIAN
Bradford Cotton Mills, Ltd.
Camperdown N.S.W., Australia

► Anybody else miss the Index in December or want extras?

Likes "Canadian Handicrafts"

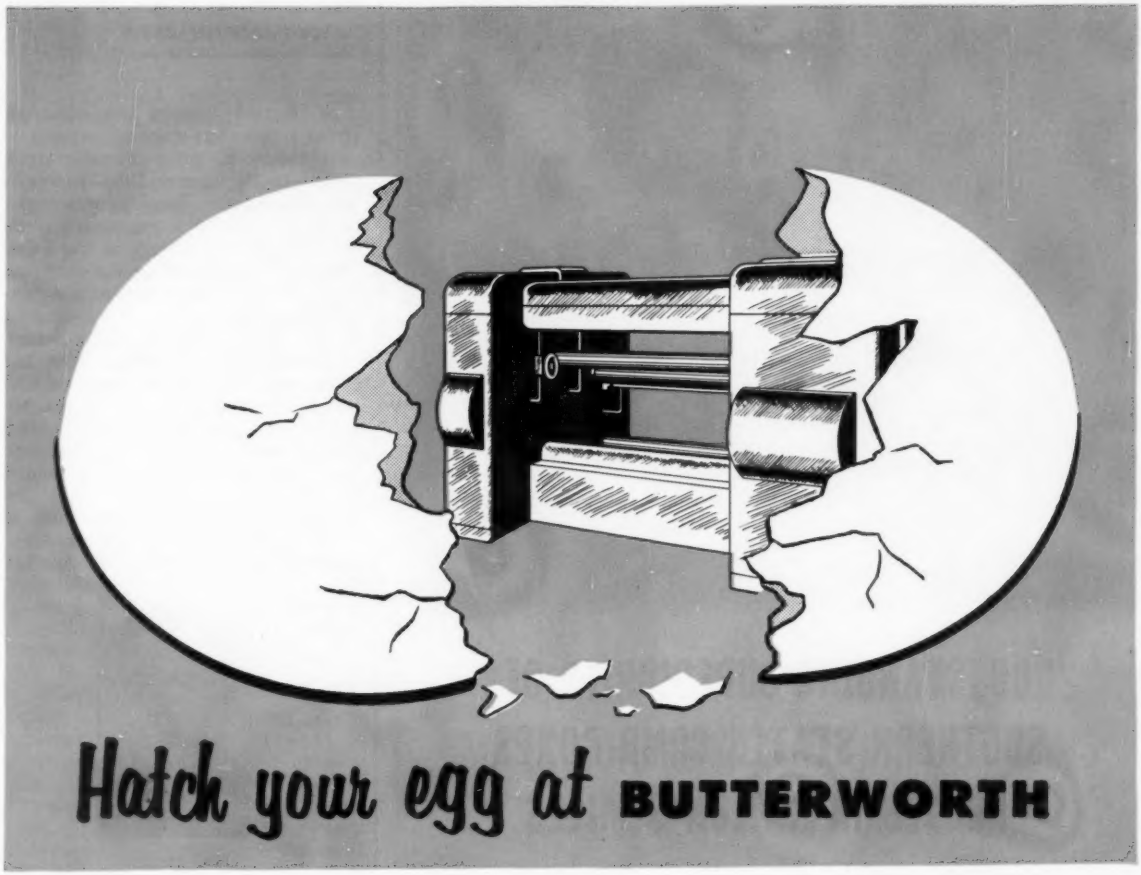
". . . We like the article on Canadian Handicrafts [Dec. '55]. . . ."

MRS. ALEX MacAULEY
Nova Scotia Tartan Ltd.
Halifax, Nova Scotia

► This here is not the "new arrival" column, but a new textile consumer and a future textile chemical salesman made his appearance Dec. 21, 1955, in Philadelphia. His name —Walter F. Fancourt IV, his father being **Jack Fancourt,** president of W. F. Fancourt Co., a good T.I. advertiser. Oh yes, he weighed in at 8 lb, 2 oz.

"Tain't the things
we don't know what
makes us so ignorant,
it's the things we know
that ain't so."
—JOSH BILLINGS

► With this old S&R signs off until the Ides of March and good old St. Patrick's Day. We'll be seeing you.



Hatch your egg at BUTTERWORTH

Bring the nest-egg of your idea to the Developmental Engineering staff at Butterworth — and leave it with them to be incubated and eventually hatched. For example, suppose you have an idea for a brand-new process. Butterworth will go to work on that idea, studying it, analyzing it, researching it. They'll shape and mold it, and give it the breath of life.

Result: Complete processing equipment that translates your brainchild into a low-cost, high-profit end result.

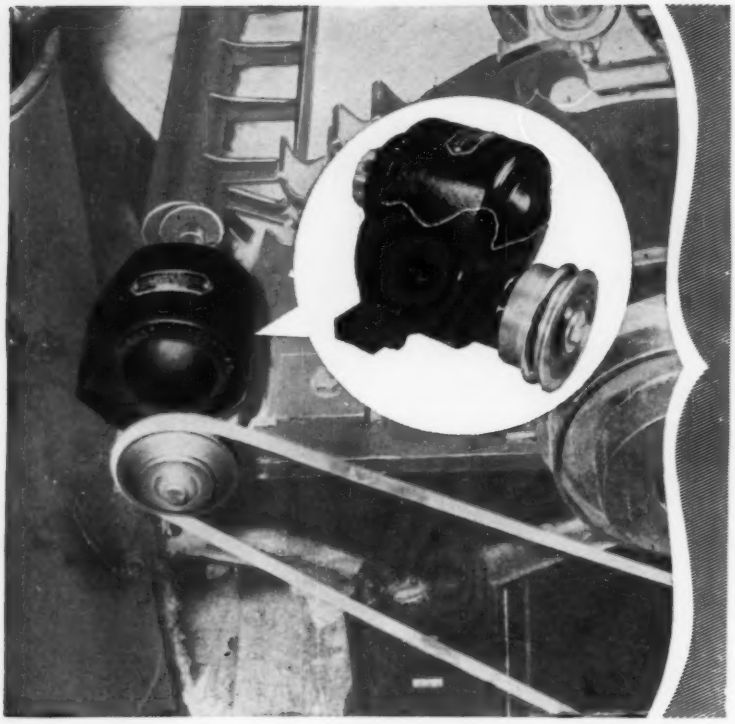
Is there an unbridged gap between an idea of yours and the process, product or machine you need? Then call on Butterworth. At Butterworth, your idea remains yours alone. Complete secrecy guards each step of development. Butterworth engineers become your engineers. Butterworth men, machines and manufacturing skill go to work for you.

Got an idea? That's all we need to start with!

Developmental Engineering
Research
Machine Building
Laboratory Machines

BUTTERWORTH
Serving the Textile Industry Since 1820

H. W. BUTTERWORTH & SONS COMPANY
Bethayres, Pennsylvania **Since 1820**



OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Card-room overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Personal NOTES
ABOUT MEN YOU KNOW

R. Buford Brandis has advanced from assistant to economic adviser to the American Cotton Manufacturers' Institute. He succeeds **Dr. Claudius T. Murchison,** who, upon his retirement at the end of 1955, announced plans for living in his cottage on Cape Cod and writing a book on the changing structure and operation of the textile industry.

William H. Lehmberg, who has been associated with American Felt Co., Glenville, Conn., since 1943, became its president on Jan. 1, 1956. He succeeded **John T. Lawless,** who continues as chairman of the board.

Edward E. Burdett, who came to Collins & Aikman Corp.'s executive staff from Botany Mills, Inc., last October, has been appointed general manager of the apparel division, following the resignation of **Ernest Eckert.** Mr. Eckert is now general manager of the Airedale Worsted Mills and Lippitt Worsted Mills, both in Woonsocket, R. I.

Mr. Burdett

Kenneth H. Barnard has joined the faculty of New Bedford Institute of Textiles and Technology as a visiting professor. Since his retirement from American Cyanamid Co. in 1955, Mr. Barnard has served as consultant to Pacific Mills, to the Quartermaster Research at Natick, Mass., and to the Department of Commerce in Washington, Textile Section of BSDA. His home is in Barnstable, Mass.

Clare D. Bedell, formerly with Warren Fabrics Co., West Warren, Mass., is now resident manager of Pawtuxet Valley Dyeing Co., Inc., Phenix, R. I.

Henry A. Reinhardt has been elected vice-president for manufac-

turing of Bigelow-Sanford Carpet Co., Inc. In his former position of director of engineering and research he is replaced by **Robert J. Jackson.**

C. G. Burrows, who retired from his position as group manager of the Roanoke and Radford, Va., plants of Burlington Industries on Jan. 1 after 40 years in the textile field, continues in a consulting capacity. He has been replaced at Roanoke by Willard Burrow, plant superintendent, and at Radford by Percy Scott, superintendent.

Recent appointments in the Deering, Milliken & Co., Inc., mills include the following: **A. W. Stoudenmire,** superintendent of Abbeville (S. C.) Mills Corp.; **W. G. Humphrey,** assistant superintendent, Judson Mills, Greenville, S. C.; **R. P. Bruce, Jr.,** assistant superintendent, and **C. A. Murchison,** technical superintendent of Gerrish-Milliken Mill, Pendleton, S. C.

Al Otto, formerly vice-president in charge of New England woolen operations for Amerotron Corp., has been appointed general manager of the Winthrop, Me., mill of Carleton Woolen Mills, Inc.

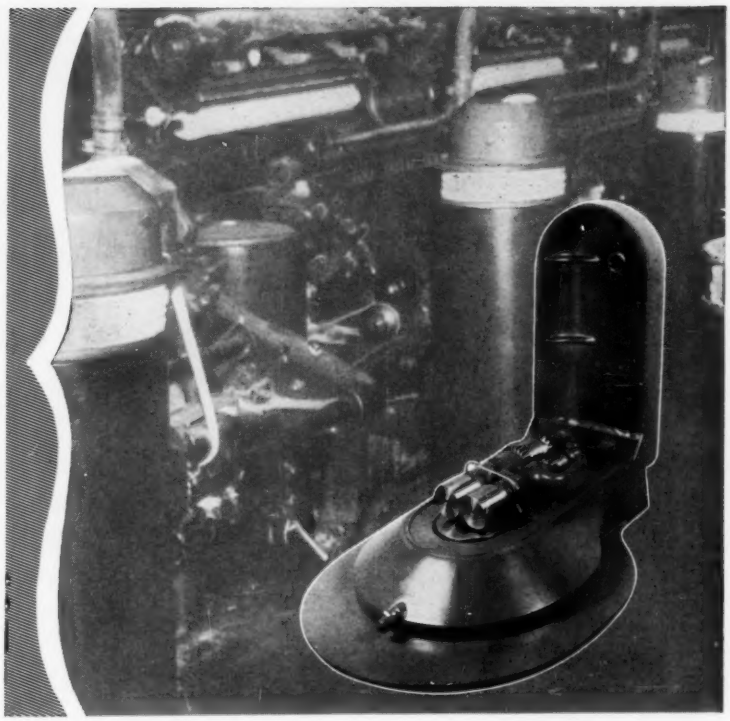
Changes in personnel at Cone Mills Corp.'s American Spinning Plant, Greenville, S. C., brought about by the retirement of **W. Carl Johnson** last December, include: **Woodrow W. Fowler,** who replaces Mr. Johnson as superintendent; **Luther Peace,** overseer of spinning; and **Harry L. Davis,** assistant overseer.

Succeeding the late W. J. Whitehead as president and managing director of Wabasso Cotton Co., Ltd., Three Rivers, Quebec, Canada, is **H. Roy Crabtree.** Mr. Crabtree was formerly vice-president and general manager of Woods Manufacturing Co., Ltd.

President of the newly incorporated Esther Yarn Mill Co., Boiling Springs, N. C., successor to Marion Yarn Mill, is **J. R. Dover, Jr.,** who is also president and general manager of Dover Mill Co., Shelby, N. C.

Arthur W. Gioner is now manager of the Patchogue-Plymouth Mills Corp., Lawrence, Mass.

William B. Goodwin has joined the Polychemicals Division, West Virginia Pulp & Paper Co., Charleston, S. C., for development work on new products based on lignin. Mr. Goodwin was until recently associated with McCormick (S. C.) Spinning Mill, Inc.



SOUTHERN STATES COILER HEADS MAKE CONVERSION TO LARGER CANS A SELF-PAYING PROPOSITION

Every mill man with an eye for ways to cut card room operating costs knows the advantages of larger cans. But what some don't realize is that Southern States conversions are so economical that they pay for themselves—a fact proved by case histories of mills throughout the country.

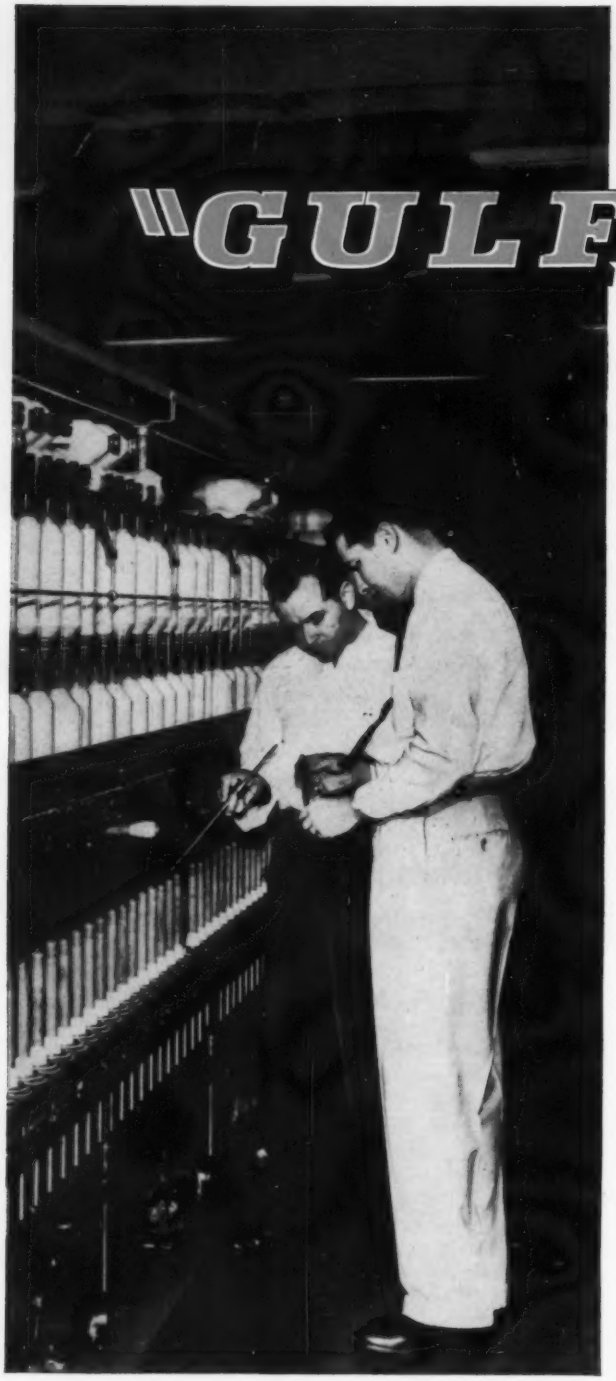
The Southern States Universal Coiler Head, illustrated above, is designed for either 14- or 15-inch cans. It is adaptable to any make of coiler. Using this head, intermediate gearing, coiler base and *your existing stand,* an inexpensive installation can be made in your mill.

Then you can enjoy all of these advantages: simplified oiling; ease of maintenance; smaller parts inventory; more efficient handling; lower operating costs; and improved quality. The photograph shows the simplified design of this head. Notice the streamlined cover and bonnet. Cut tooth gears and oilite bearings are used throughout. It is precision built for years of satisfactory service.

Get full facts from your Southern States representative, or send your request direct to the home office for a quick reply.

SS

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA



"GULFSPIN

keeps our spindles spinning clean and free,"

says...

W. M. LONG, superintendent
Rowan Cotton Mills Company,
Salisbury, North Carolina

"We have used Gulfspin for four years and have found that it almost entirely eliminates sticking spindles," says Mr. Long. "It also keeps sludge in suspension so that we do not have to pump our spindle bases as often."

In addition to the benefits cited by Mr. Long, Gulfspin also provides effective protection against rust and reduces power costs because of its ability to maintain its original viscosity after many months of service.

You'll find that the use of Gulfspin will contribute to smoother spindle operation, fewer ends down, and rock-bottom maintenance and power costs.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. You'll find the number of your local Gulf office in the telephone directory.

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"You can tell when the slasher room went on SEYCO . . ."

We try to be modest, but we must admit that we're old hands at helping management create new curves. If you're having your ups-and-downs, perhaps a discussion with your SEYCO man can get things moving in the right direction—UP! Call him in and talk things over. You'll be amazed what a little talk, and SEYCO products can do!"

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

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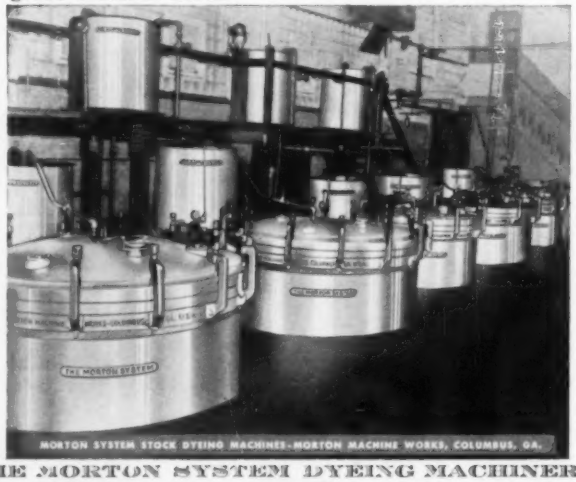
SEYCO

Package Dyeing: Copper engraving, 1763

"THOSE DAYS ARE GONE FOREVER!"

Back in 1763 the age old art of dyeing had taken on all the aspects of a torture chamber. The old engraving above shows that at least seven people were required to do one job. Any time you begin to worry about production in your dyehouse, try to imagine what the output of the dyehouse pictured above might have been. *You think you've got troubles?*

Fortunately, however, "those days are gone forever." The modern dyehouse is a masterpiece of efficiency. Look at the MORTON System Stock Dyeing Machine installation below. This system is automatically controlled, requires minimum labor and produces outstanding results. It easily handles batches of four and five thousand pounds. The leading machine to dye acrylic and similar synthetic fibers in commercial lots at elevated temperatures, its construction is of any desired grade Stainless Steel.



MORTON SYSTEM STOCK DYEING MACHINES—MORTON MACHINE WORKS, COLUMBUS, GA.

THE MORTON SYSTEM DYEING MACHINERY

MORTON

MACHINE WORKS, INC.

COLUMBUS, GEORGIA U.S.A.

Personal NOTES ABOUT MEN YOU KNOW

John M. Holland, formerly a salesman in the cotton finishing division of Pepperell Manufacturing Co. in New York, was recently named manager of the new products department at the Lindale (Ga.) division.

J. B. Hughes has been named manager of Aragon (Ga.) Mills, a unit of United Merchants and Manufacturers, Inc. Mr. Hughes came to Aragon from Fulton Bag & Cotton Mills in Atlanta, Ga.

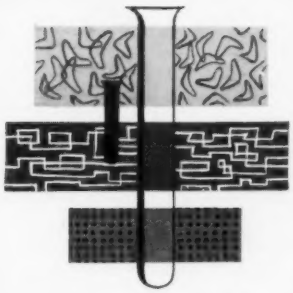
John R. Kinash, formerly with the Lippitt Mill, Woonsocket, R. I., is now superintendent of the Collins & Aikman Corp. Plant "K" in West Barrington, R. I. [Our previous announcement in the November, 1955, issue was erroneous in that Mr. Kinash's name was listed as Joseph Kinagh. We apologize, Mr. Kinash.—Eds.]

James A. Irvine is a recent addition to the faculty of Lowell (Mass.) Technological Institute's department of textile engineering. A 1917 graduate of LTI, Mr. Irvine was previously with Barnes Textile Associates, Inc. of Boston. Administrative assignments with the textile manufacturing division include the naming of Associate Prof. **Nathaniel E. Jones** of Dracut as head of the knitting section; Assistant Prof. **Russell L. Brown,** of Westford, head of the woolen and worsted yarn manufacturing section; Associate Prof. **Edward L. Golec,** of Dracut, head of the design section; and Associate Prof. **John L. Merrill,** of Lowell, head of the weaving section.

Dexie M. R. Mills is now head of the cost department of the E. T. Barwick Mills, with headquarters at the company's Monarch Rug Mills, Inc., plant in Dalton, Ga. Mr. Mills was

Mr. Mills

for several years cost department supervisor at Fulton Bag & Cotton Mills, Atlanta, Ga., and since 1951



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use OK TEXTILE STARCHES

OK Textile Starches assure you of quality cloth that stimulates sales and profits. This is true because of Hubinger's continuous laboratory research giving you the benefit of improved, up-to-the-minute additives, plus carefully controlled formulae uniformity. Always dependable, convenient to store and time-saving in use, OK Textile Starches provide an effective, economical means to improved sizing, printing and finishing. Try OK soon in your mill operations!

Need a tailor-made textile starch?

Any Hubinger representative will be pleased to place expert technical men and extensive laboratory facilities at your disposal. Remember, some of the industry's leading textile experts are on Hubinger's staff.

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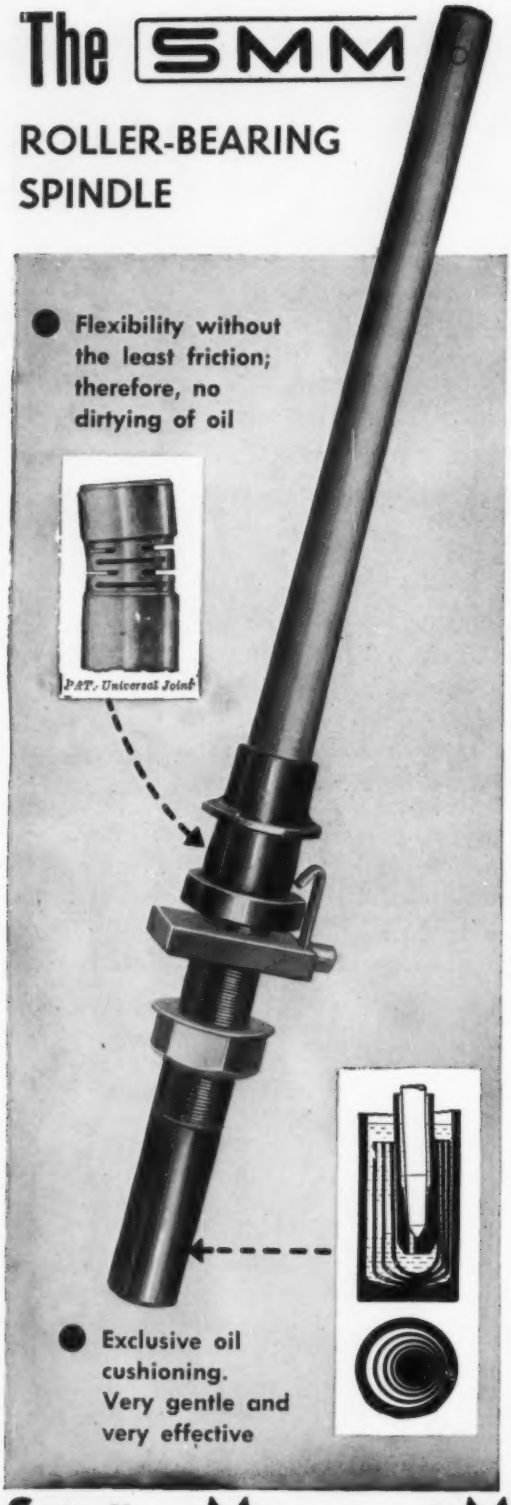
The SMM ROLLER-BEARING SPINDLE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P.T. Universal Joint
Exclusive oil cushioning. Very gentle and very effective

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20,000 Hours and more with same oilfilling.

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Amazingly smooth running results in less thread breakages, in a more uniform quality of thread . . . permits higher speeds and increased traverse.

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Built for any kind of bobbin. For twisting, spinning and throwing. For light and heavy duty.

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SMM SPINDLES step up your output-per-manhour and give you highest return on your spindle investment.

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Personal NOTES
ABOUT MEN YOU KNOW

had been standards manager at Lane Cotton Mills, New Orleans, La.

Olen F. Marks of the technical service staff of Industrial Rayon Corp. has joined the department of textile research at North Carolina State College, School of Textiles. His assignment there is to organize and activate a new division to engage in research and development work on fabrics design, warp preparation, and weaving.

Textile executives recently elected officers of Rotary International are **Samuel Bancroft Bird,** secretary of Joseph Bancroft & Sons Co., Wilmington, Del.; and **Charles E. Dearnley,** president of Dearnley Brothers Worsted Spinning Co., Inc., Philadelphia, Pa.

Van Court Andrews and **Clarence Taggart** have been appointed to the executive committee of Riegel Textile Corp. * * * **Mark Cooper, Jr.,** has been promoted to assistant superintendent of dyeing and finishing at the company's Trion (Ga.) Division. **W. A. Howard,** formerly overseer of dyeing at West Point Manufacturing Co. in Fairfax, Ala., is now night superintendent of the dyeing and finishing plant at Trion. **J. C. Cavin,** who has been promoted to quality control supervisor, has offices at Riegel's Ware Shoals, S. C., plant, but continues to work with the Trion, Greenville, and Johnson divisions as well.

L. B. Jackson was appointed to fill the vacancy created by the retirement of **R. Y. Smith,** shift supervisor of the twisting and winding department of U. S. Rubber Co.'s Stark Mills, Hogansville, Ga., last November. Mr. Smith had been with the company since 1924, and Mr. Jackson began employment as a twister doffer in 1928.

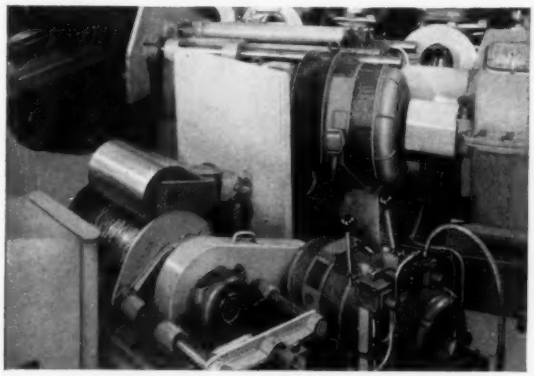
Elwyn G. Preston, Jr., of Boston, Mass., has been elected vice-president of West Point (Ga.) Manufacturing Co.

In December, 1955, **Wendell M. Patton, Jr.,** assumed duties as assistant general manager of Shuford Mills, Inc., Hickory, N. C. **W. W. Bowman,** formerly with American Viscose Corp., joined Shuford as technical di-

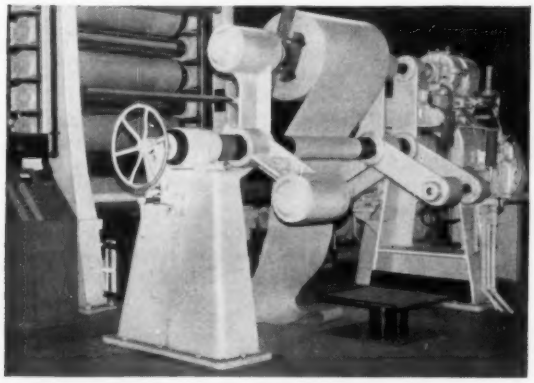
Tension Control Problems?

Dynamatic's Long Experience in Solving Industrial Windup and Unwind Problems will be Valuable to You

DYNAMATIC®



Metal slitter powered by Dynamatic Drives. Adjustable speed liquid cooled coupling used as main drive; Ajusto-Spede® Drives, with constant tension control, wind up the metal strips.



Completely Dynamatic driven paper super-calender. Adjustable speed liquid cooled couplings with Eddy-Current brakes drive the calender rolls and center rewinder. Dynamatic liquid cooled brake provides center unwind hold-back. Co-ordinated controls provide for wide-range adjustment of speed and tension.

Dynamatic Eddy-Current Drives with tension controls are used extensively in the fields of paper, rubber, textiles, ferrous and non-ferrous metals, plastics, and printing.

Combined with associated controls, Dynamatic Eddy-Current Drives provide automatic constant tension as the roll diameter changes on center rewinds and unwinds. Constant tension is maintained over a wide range of material delivery speeds without the use of dancer or follower rolls. Controls may be adjusted for tapered tension to increase or decrease tension automatically as the roll changes diameter.

Multi-range tension or tension adjustment over a wide range is easily accomplished at the operator's station to accommodate materials of various thicknesses or widths. Control modifications are available to provide for inertia compensation and other individual requirements. Dynamatic engineers are available for consultation on your problems.

Bulletins giving detailed information on Dynamatic Tension Control will be sent free at your request.

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NEW...Sales-winning TEXTILE PACKAGING

for better protection, better economy, better buyer-acceptance...

EASY AUTOMATIC OPERATION

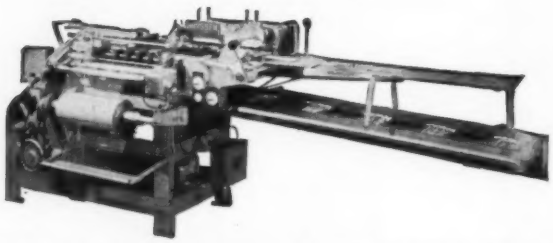
Regardless of size or shape, you get a neat, tight, perfect-register wrap on every package with a Hayssen automatic wrapping machine. Also, production men report savings up to 80% over previous wrapping costs.

FASTER, SIMPLE TO CHANGE SIZE

No complicated adjustments from size-to-size on a Hayssen. No gears or sprockets to remove or change... no need for expensive mechanics to change size, either. So simple the operator does it on the job.

COSTS LESS, DURABLY BUILT

Hayssen's simple, rugged design, using fewer moving parts, keeps these machines working and saving through years of dependable, trouble-free service. Both the cost of the machine and the maintenance are so low you won't believe it.



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Since 1910, Manufacturers exclusively of automatic wrapping and packaging machines.

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Personal NOTES ABOUT MEN YOU KNOW

rector of synthetic production.

Chadbourn-Gotham, Inc., has announced the resignation of **Samuel F. Rubin** from his position as vice-president of the company.

Chicopee Manufacturing Corp. recently elected **Bernard J. Rahilly** of

Mr. Rahilly

Westfield, N. J., as vice-president for industrial relations.

Otto Stewich, formerly with the Worumbo Mfg. Co., Lisbon Falls, Maine, is now superintendent of Lewiston (Maine) Woolen Mills.

Arthur Stowe, who was previously in charge of dyeing operations for the Fred Whitaker Co. in Philadelphia, is now manager of the company's recently acquired plant at Raleigh, N. C.

Upon completion of 59 years in cotton textile work, **O. A. Sullivan** retired from his position as superintendent of Manetta Mills at Monroe, N. C., in September.

Following acquisition of Union Underwear Co., Inc. of New York by Philadelphia & Reading Corp., **Jack Goldfarb** has been elected president and chairman of the board of the new Massachusetts corporation, Union Underwear Co., Inc. **Joseph I. Medalie, Theodore H. Lazar,** and **Martin Leventhal** were elected vice-presidents.

Standard - Coosa - Thatcher Co., Chattanooga, Tenn., has named **W. Lane Verlenden** as assistant treasurer.

Irving A. Tannenbaum of Philadelphia, Pa., recently announced the appointment of **William Andrew Walser** as superintendent of the new throwing plant in Eddington, Pa.

The appointment of **Forrest Ware**

LATEST NEWS FROM SOLVAY

WE'RE MAKING HYDROGEN PEROXIDE

The news that SOLVAY is producing hydrogen peroxide in a new plant at Syracuse, N. Y. is of threefold importance to users of this product.

1. It provides a new dependable source of supply for material of top quality—SOLVAY quality.

2. It means that hydrogen peroxide can be purchased in mixed carload or mixed truckload lots with other SOLVAY products.

3. It makes available, without obligation, SOLVAY's specialized, industry-wise Technical Service.

Hydrogen peroxide, in addition to its many, well-known bleaching applications in industry, is important in such newer uses as in the manufacture of organic chemicals through epoxidation and hydroxylation reactions.

Put SOLVAY Hydrogen Peroxide to work in your products or processes. Now available in both 35% and 50% grades, you can get it in both drums and tank cars—shipped in carloads or truckloads, straight or mixed, as well as l.c.l. Write for further details on prices, general information and technical data.

AMERICA'S FIRST PRODUCER OF ALKALIES
SOLVAY
75th YEAR 1881-1956

Soda Ash • Snowflake® Crystals • Chlorine
Potassium Carbonate • Calcium Chloride
Sodium Bicarbonate • Ammonium Chloride
Ammonium Bicarbonate • Caustic Potash • Chloroform
Sodium Nitrite • Caustic Soda • Methyl Chloride
Cleaning Compounds • Methylene Chloride • Monochlorobenzene
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Completion of FISHER MANUFACTURING COMPANY'S new quarters, pictured above, celebrate the 10th Anniversary of the company's service to textile mills. During this time, FISHER'S imaginative engineering has produced functional trucks to meet every demand of the industry. Talk your truck problems over with us today!

Representatives: **Carolina Supply Co., 35 W. Court St., Greenville, S. C.**
Textile Specialty Co., Box 1297, Greensboro, N. C.
J. W. Davis, 122 Dillingham St., Columbus, Ga.
Thos. A. Davis, 412 Swift Bldg., Columbus, Ga.

FISHER MANUFACTURING CO.
MATERIALS HANDLING EQUIPMENT, TEXTILE
BOX 244 -- HARTWELL, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

as superintendent of dyeing and finishing at Varel Mills, Inc., Middleway, West Virginia, has been announced.

Russell E. Welch has been named treasurer of The Adler Company, Cincinnati, Ohio.

Earl J. Wentz, Jr., who joined Roanoke (Va.) Mills, Inc., as general manager in 1953, has been elected vice-president and director.

Obituaries

George L. Baxter, 59, director and sales manager of Bradford (R. I.) Dyeing Association (U.S.A.).

William J. Carney, 85, Schenectady, N. Y., formerly superintendent of Fuld & Hatch Knitting Co.

Charles R. Bryant, treasurer of Scranton (Pa.) Lace Co.

Herman Cone, 60, board chairman and president of Cone Mills Corp., Greensboro, N. C.

C. Arthur Cook, 77, general manager of yarn mill, West Boylston Manufacturing Co. of (Montgomery) Ala.

William Claude Gibson, Sr., 69, founder of Gibson Textile Specialty Co., Decatur, Ga.

T. H. Gillespie, vice-president and general sales manager of Werthan Bag Corp., Nashville, Tenn.

Col. Marvin Hays, 50, inspector general of the Office of the Quartermaster General, Washington, D. C.

Richard Hey, Charlotte, N. C., president of the former Richard Hey & Sons Woolen Co. of Manayunk, Pa.

Fred Hodgkinson, 50, plant manager for Cadillac Textiles, Inc., Valley Falls, R. I.

Fred H. O'Hara, 70, chairman of the board, treasurer, and founder of Norwich (N. Y.) Mills, Inc.

Harry E. Sims, 79, treasurer and director of Atlas Underwear Co., Piqua, Ohio.

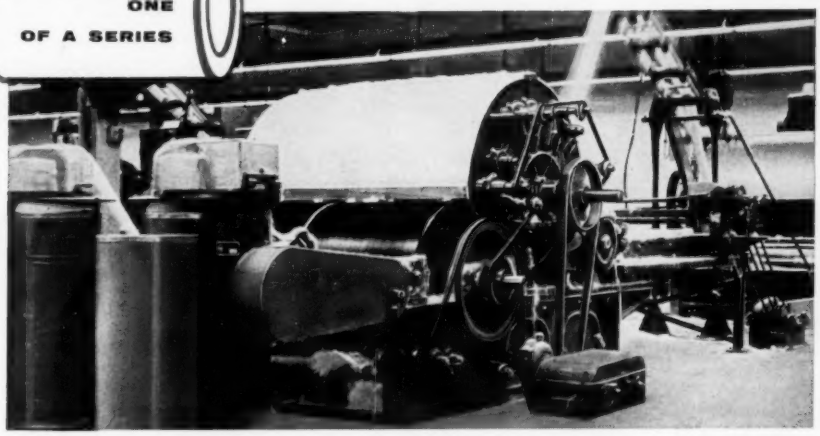
Henry E. Stehli, 53, chairman of Stehli & Co., New York, N. Y.

Evan L. Thomas, 85, retired textile manufacturer who had operated mills in Schuylkill Haven and Cressona, Pa.

TESTED WAYS TO ASSURE MORE PROFITABLE TEXTILE PRODUCTION

ONE OF A SERIES

HYATT ROLLER BEARINGS IMPROVE QUALITY OF YARN AND CLOTH



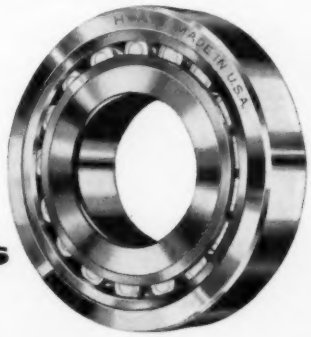
Proctor & Schwartz Model 670 Breaker Card and Model 671 Finisher equipped with HYATT Roller Bearings at Chatham Mfg. Co., Elkin, N. C.

In textiles, oldest of all major mechanized industries, the quality of the finished product depends very largely on the performance of the machinery used. It is axiomatic, of course, that *no* machine is better than its bearings. This is particularly true of complex automatic textile machinery where the maintenance of accurate settings is so vital.

For example, let's start right at the beginning with the carding operation. Uniform carding depends on the maintenance of critical cylinder, doffer and lickerin settings. These *cannot* be accurately maintained when fast-wearing plain bearings with excessive internal clearance allow too much "play."

One of the great advantages of HYATT Roller Bearings is the fact that they are *precision-built with extremely close tolerances.* Uniform sliver is far easier to produce on carding machines equipped with HYATTS because *critical settings stay put.*

Be sure to specify roller bearings by HYATT—pioneer in their application to the textile industry for years — when you modernize or replace *any* of your machines. For further details on the profitable application of HYATT Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey. Remember, HYATT leads the field in textile bearing know-how.

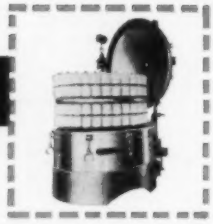


NO TEXTILE MACHINE IS BETTER THAN ITS BEARINGS!

HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

For Cleaner PACKAGE DYEING



SONOCO DYTEX® TUBES

with PLASTAVON SLEEVES

SONOCO Dytex Tubes, with Plastavon Sleeves, are the result of laboratory and in-use development proven by over 20 years' experience! Accepted by the industry for all standard forms of package dyeing. The exclusive Plastavon Sleeve allows more even dye distribution, better "flow" control and filters out objectionable or discoloring matter. Also reduces slippage in primary winding.

Supplied in standard sizes ⅜" I.D. x 6¾" long and 1⅝" I.D. in varying lengths. Special sizes available. Tubes can be furnished in certain colors for identification. Consult your Sonoco sales-engineer or write us direct.

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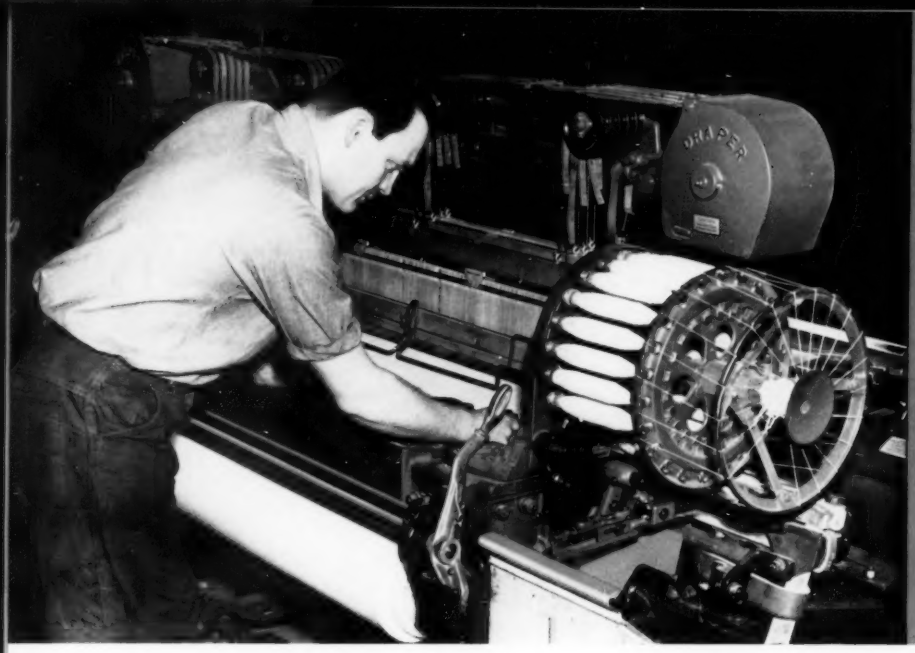


No. 7 of a Series

DRAPER LOOM FIXING

*Positioning Shuttle in R. H. Box

For Average Settings on X Series Looms

It is important that the Shuttle be in correct position at time of transfer; otherwise an incomplete transfer, causing serious damage, may occur.

The following method of positioning the Shuttle is suggested:

Assemble a Bobbin in the transferring position in the Battery. From the back of the loom, push down the Transferrer to the rings of the Bobbin.

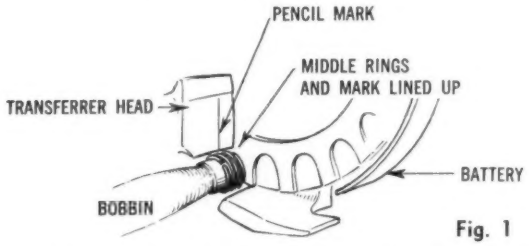


Fig. 1

Make a pencil mark on the polished head of the Transferrer directly above the middle ring on the Bobbin (see Fig. 1).

Release the Transferrer and remove a Bobbin from the Battery. Place the Bobbin manually in the Shuttle with all three rings held by the Shuttle Spring.

Place the Shuttle in the right hand box, making sure that the Spur enters the Picker and the Shuttle is forced to the outer end of the box.

Move the Lay forward to engage the raised Latch Finger.

Then, with the Transferrer down to the Bobbin in the Shuttle (see Fig. 2), inspect the Shuttle position.

It may be necessary to pack in back of the Picker Stick under the Lay Strap until the pencil mark on the head of Transferrer lines up in the center between the first and second rings on the Bobbin, counting from the end of the Bobbin butt.

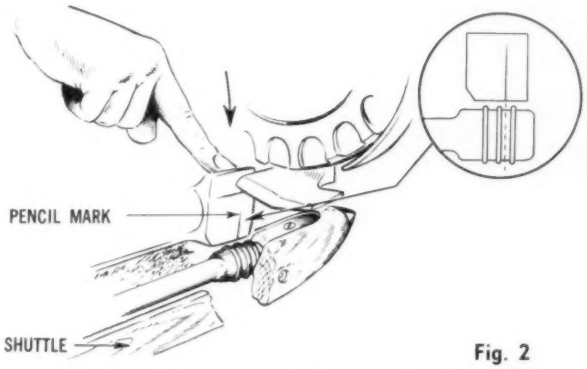


Fig. 2

With the Shuttle correctly placed under the Battery, and the Shuttle Feeler in position to transfer, there should be a clearance not exceeding $\frac{1}{32}$" (for rayon looms) between the Shuttle Feeler Tip and the Spur of the Shuttle. This clearance is made by adjusting the Shuttle Feeler Tip to just clear the Shuttle Spur. The maximum recommended clearance at this point for cotton looms is $\frac{3}{32}$".

*This is a condensed version.

DRAPER CORPORATION

Advertising Department (TI-7)
Hopedale, Massachusetts

Please send complete Setting Instruction No. 524
"Positioning Shuttle in R.H. Box for Transfer."

Name_____

Position_____

Company_____

Address_____

DRAPER TRUE FLIGHT SHUTTLES

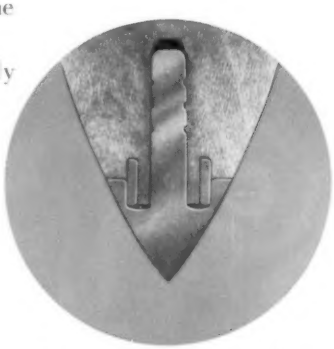
ENGINEERED TO YOUR SPECIFICATIONS

. . . offer you *all the advantages* . . . because they are made from the finest raw materials by craftsmen who know your requirements.

The cotton shuttle illustrated is only one of 3000 types currently being manufactured by Draper Corporation.

Special Features Include:

1. Recessed Shuttle Spur	Furnished as specified, sharp, blunt, or semi-blunt.
2. Spring Assembly	Furnished with either single, or double bolt construction with shake-proof washer.
3. Bristles	Furnished as specified, Pig (large or small bunch), Horsehair, Regular Nylon, Fine Nylon, or Camel's Hair.
4. Side Eye Opening	Furnished with S. F. 29 Thread Bushing, or Nitrated, Chrome Plated or Phonograph Needle Steel Pins.
5. Shuttle Eye	See Below



Patented Recessed Shuttle Spur

Short eyes and L.H. wind versions of the eyes shown are available.

#274 Cast iron eye with straight steel scroll

#340 Cast iron eye with curled steel scroll

#347 Cast iron solid scroll eye

#370 Cast iron solid machined scroll eye

DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

PHARMASOL*
FACT SHEET:

BLUE 2G

1 PROPERTIES AND FASTNESS TABLES

LIGHT 3-4
WASHING 5
CHLORINE 3

2 APPLICATION

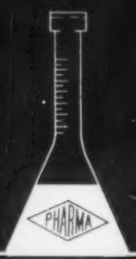
Application printing on cotton, rayon and linen as a self navy shade and as a shading for browns with conventional acid ageing. (Available also as a double solution and as a Pharmol powder.)

3 ADVANTAGES

The greenest and brightest available of the low cost blues.

*Reg. U.S. Pat. Off.

Our application laboratories are daily solving new, difficult color-matching problems. Years of experience and research have equipped us to furnish the exact color you require . . . exactly — with speed, efficiency, economy. Write today for full information.



PHARMA CHEMICAL CORPORATION PLANTS: BAYONNE, N. J.

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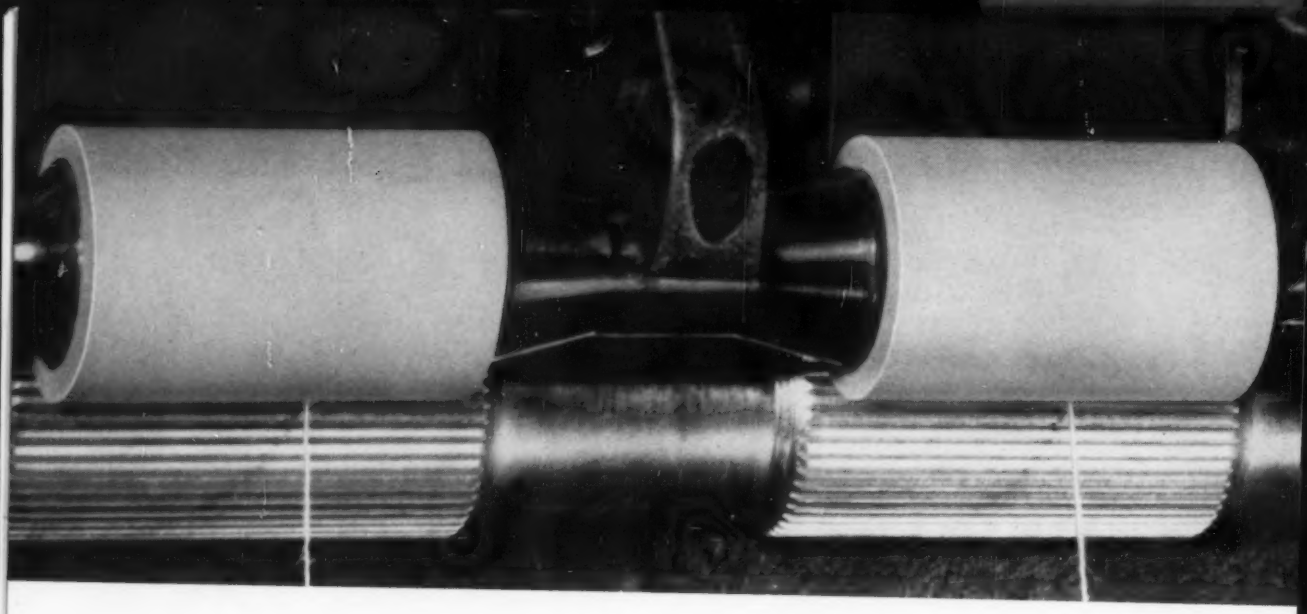
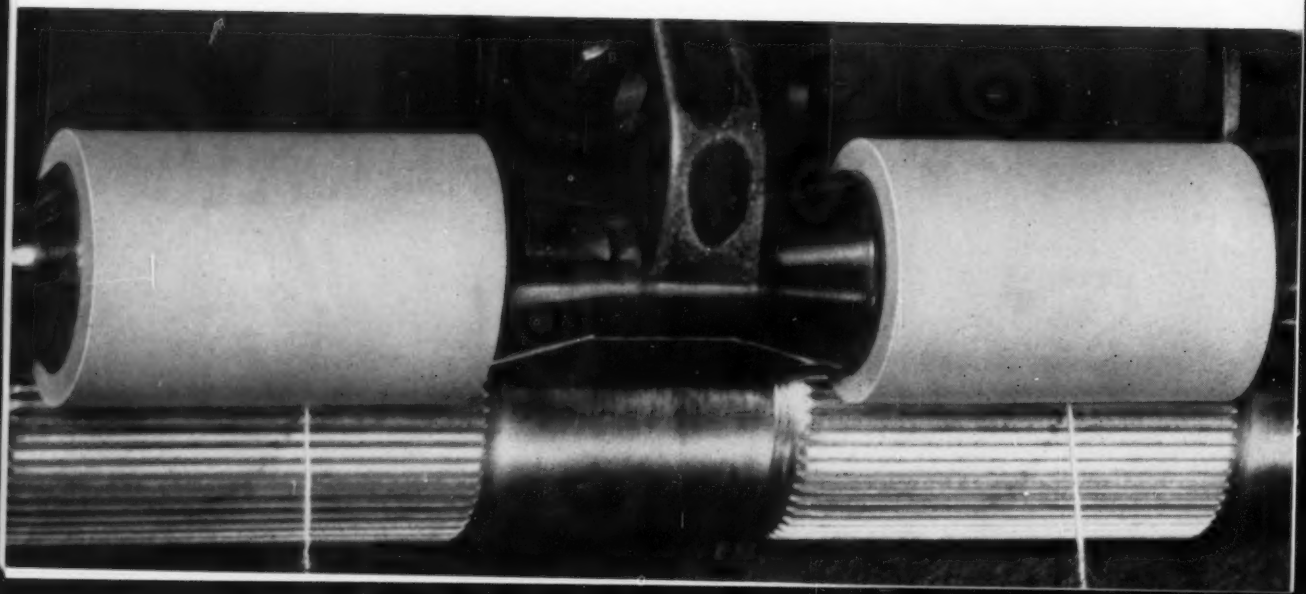
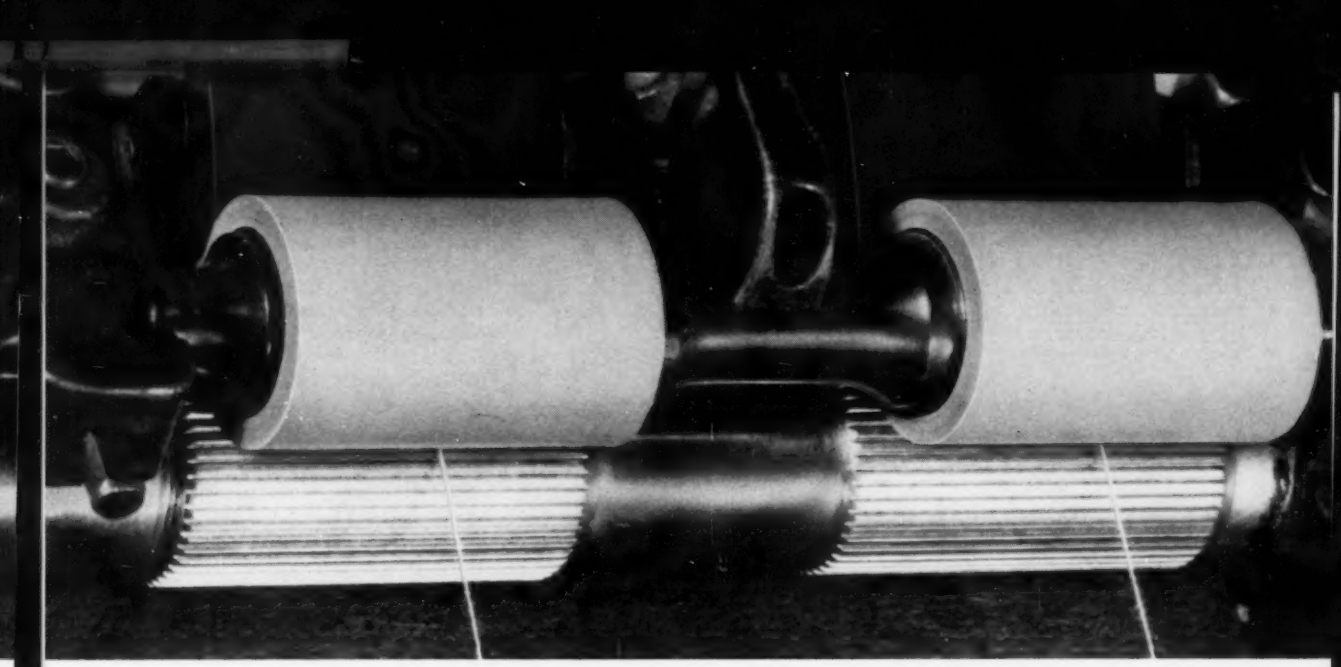


Not a lap-up in sight !





ARMSTRONG J-490

ACCOTEX® COTS REDUCE

LAP-UPS...NO MATTER

WHAT YOU'RE SPINNING

Are you spinning natural fibers? Synthetics? Blends? In any case, Armstrong J-490 Cots help prevent front roll lapping—and turn out strong, uniform yarn year after year.

J-490 Cots are made of a patented synthetic rubber material that eliminates the basic cause of lapping—electrical attraction between cot and fiber. The J-490's built-in electrolytes actually tend to repel broken ends.

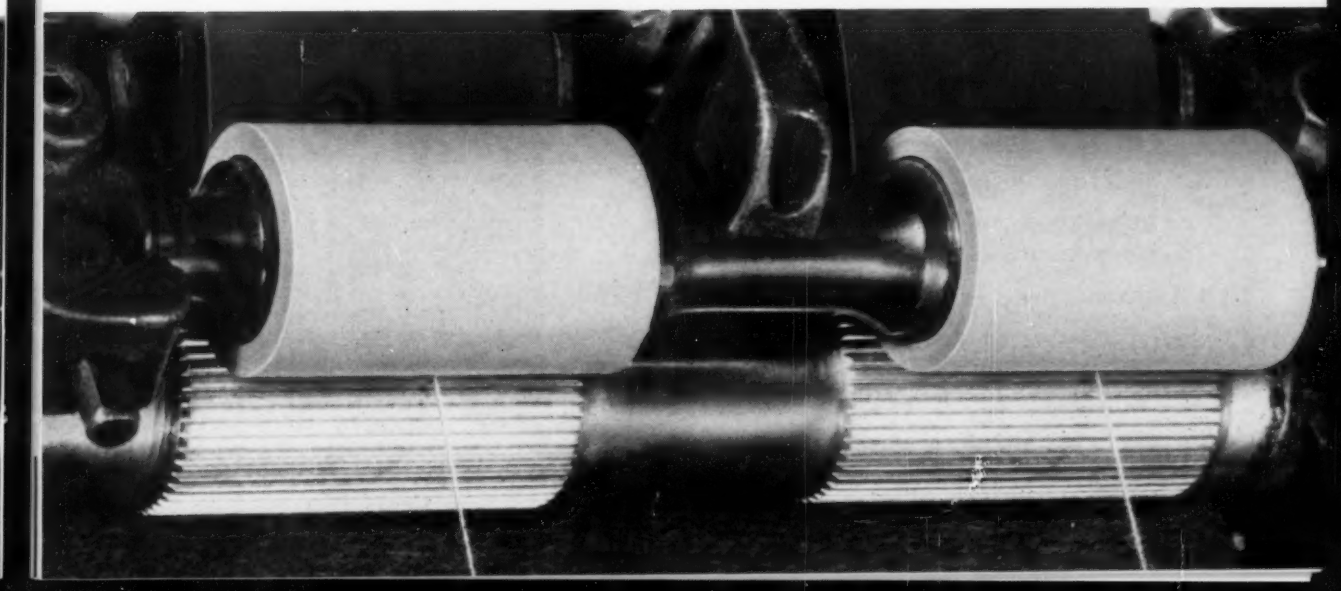
J-490 Cots are also exceptionally smooth and clean running. There are no rough fillers to pull short fibers from stock and cause excessive end breakage. An occasional re-buffing keeps the J-490 spinning like new.

Your Armstrong man will be glad to set up a test side of these cots. Ask him about it. Or write to Armstrong Cork Company, Industrial Division, 6502 Ivy Street, Lancaster, Pennsylvania.

P. S. If eyebrowing is a problem in your spinning room, try the Armstrong NO-742-S Cot. It has a "constant friction" surface that packs waste well back under the clearers and stops eyebrows from forming.

Armstrong ACCOTEX COTS

. . . used wherever performance counts



What the TEXTILE MILLS are doing

American Textile Printer Co., Inc., Paterson, N. J., is the name of the reorganized American Textile Processing Co., Inc. The company has an expansion program in progress, including setting up a complete new printing division under the supervision of Arthur Nazzaro, a vice-president. Approximately $500,000 has been spent on new equipment, including four printing machines, 12 jigs, two agers, washers, etc.

NON-FLUID OIL

TRADE MARK REGISTERED

THE CHOICE OF BEST TRAINED CARDERS

Usually the best product for any given service turns out to be the most economical . . . this has been proven time and again by the thousands of mills using NON-FLUID OIL.

NON-FLUID OIL . . . eliminates the wearing out of bearings, thus maintaining accurate adjustment of Doffer and Top Flats and . . . lasts six to eight times longer in Comb-Boxes, prevents heating, cam wear, dripping and spattering.

Send for your free testing sample, and you will soon see why card room overseers in 7 out of 10 mills prefer NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT COMPANY

292 Madison Avenue, New York 17, New York—Works: Newark, N. J.

Southern District Manager: Lewis W. Thomason, Jr., Charlotte, N. C.

WAREHOUSES: Atlanta, Ga., Birmingham, Ala., Charlotte, N. C., Chicago, Ill., Columbus, Ga., Detroit, Mich., Greensboro, N. C., Greenville, S. C., Providence, R. I., St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

The Atwater Division of Hess, Goldsmith & Co., Inc., has installed a knitting and finishing research laboratory at its Texturizing Plant No. 3 in North Wilkes-Barre, Pa. Circular knitting equipment, full-fashioned and seamless hosiery units, a tricot machine, and complete dyeing and finishing facilities are included. The department is designed to serve a two-fold purpose: comparative yarn quality evaluation and development of new fabric end uses. This supplement to Atwater's initial yarn testing laboratory was necessitated by the firm's extended commission throwing activities into the fields of bulked, textured yarns, chiefly "Ban-Lon," "Taslan" and "Fluflon," plus stretch yarns for hosiery. John Dievers, formerly of Security Tricot Mills, is director of the laboratory's operations.

Beaver Hosiery Co., Hickory, N. C., has leased the building in Catawba, N. C., formerly occupied by John L. Lyerly & Sons, Inc., for establishment of a hosiery knitting mill. Heating, wiring, and ventilating systems have been renovated. Installation of 68 knitting machines and auxiliary equipment for production of men's hosiery was scheduled to begin immediately upon completion of remodeling, with 120 additional machines to be installed at a future date. Employment of approximately 125 persons is contemplated when the Catawba plant reaches peak production. Marvin Bryant is general manager, Delmar Cagle superintendent, and Cy Keith knitting room foreman. • • • Upon completion of the expansion program now in progress at Beaver's Hickory, N. C., plant, approximately 180 knitting machines will be available and it is anticipated that about 125 operatives will be required.

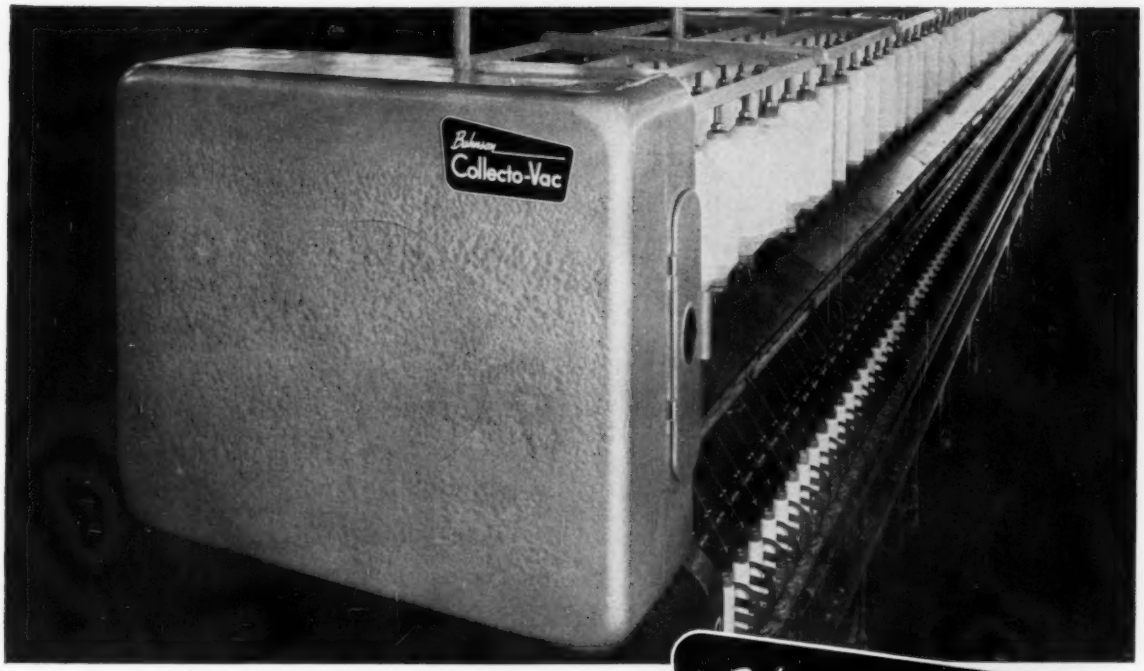
Botany Mills, Passaic, N. J., has entered an agreement with Bernard Goldfine, president and treasurer of Strathmore Woolen Co. of Boston, whereby women's wear and over-the-counter fabrics bearing the Botany label will be manufactured and marketed under Mr. Goldfine's direction. A royalty will be paid to Botany on all goods produced by the licensing arrangement. That part of the Botany production to be made under Mr. Goldfine's supervision will be continued in Botany's Passaic plant, and part of it will be made in certain of Mr. Goldfine's mills.

Caledonian Dye Works has recently completed installation of a second extractor for the expanded tape

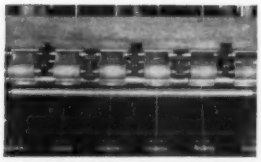
Bahnson's 40 years' air-handling engineering experience brings you

Important savings and greater efficiency

in automatic broken-end collection



with the NEW Bahnson Collecto-Vac



Durable aluminum flutes

Anodized aluminum flutes *eliminate flute warpage* and minimize static electricity build-up on the smooth collecting surfaces.

Low power consumption

Specially engineered main duct gives maximum pressure distribution throughout system utilizing a Bahnson designed fan for high air handling efficiency.

Functional double entry

Vacuum sealed doors on each end of collection box facilitate operation, save time and money.

High suction efficiency

Collection ducts and flute connecting tubes are completely air-tight due to specially compounded seals at tube joints. Efficient suction performs double duty, too, in lint and fly recovery.

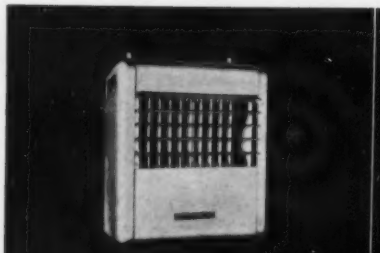
91 OF THE TOP 100

Of the nation's 100 top textile manufacturing firms, 91 are users of Bahnson equipment!

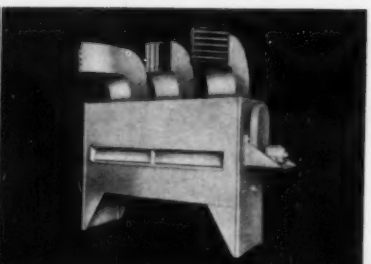
Bahnson COMPANY
WINSTON-SALEM, N. C.

WRITE US TODAY
for additional information on the *new* Bahnson Collecto-Vac.

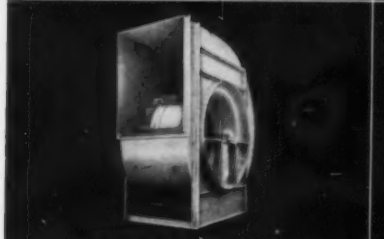
AIR CONDITIONING • CLEANING VACUUM COLLECTION



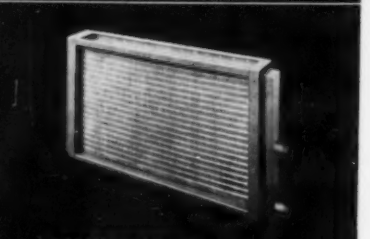
SPEEDHEATERS... Gas, steam and hot water types. Ideal for uniform space heating with rapid air circulation.



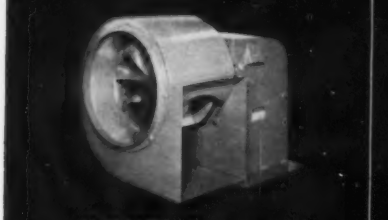
INDUSTRIAL HEATERS... The steam unit heater for industrial plants, warehouses, garages... floor, wall, and ceiling mounting ... adjustable nozzle outlets.



SILENTVANE FANS ... Non-overloading horsepower characteristics with stable, quiet operation.



STEAM HEATING COILS ... Standard and double tube non-ferrous ... also heavy duty wrought iron.



VENT SETS... Direct-connected or V-belt driven ... compact for outdoor or indoor installation.

AIR HANDLING UNITS ... Contain all components necessary for "package" heating, ventilating and air conditioning.

*No. 1 of a Series

Put Air to Work Economically for:

***1.** HEATING AND VENTILATING
2. Fume, vapor and dust exhaust
3. Make-up air for balanced ventilation
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For complete application service, call your Consulting Engineer or your nearest Sturtevant Division Sales Engineer... or write Westinghouse Electric Corporation, Sturtevant Division, Dept. 7B, Hyde Park, Boston 36, Mass.

WESTINGHOUSE AIR HANDLING

YOU CAN BE SURE... IF IT'S Westinghouse

J-80456

What the TEXTILE MILLS are doing

bleaching and novelty skein dyeing operations of the plant.

Callaway Foundation has construction under way on new buildings surrounding **Callaway Mills Co.'s** swimming pool at LaGrange, Ga. The project, scheduled for completion this year, includes a modern bathhouse, a complete soda fountain and grill, and bleachers for spectators at swimming events and other activities. Adjoining the grill, which is designed for year-round operation, will be two patios for parties, dancing, and relaxation. Provisions have been made for flowers, shrubs, and grass to add to the beauty of the attractive recreation center.

Charlestown (N. H.) Yarn Mills Inc., a new corporation headed by Samuel Zelkind, purchased the woolen mill formerly known as Charlestown Mills, Inc.

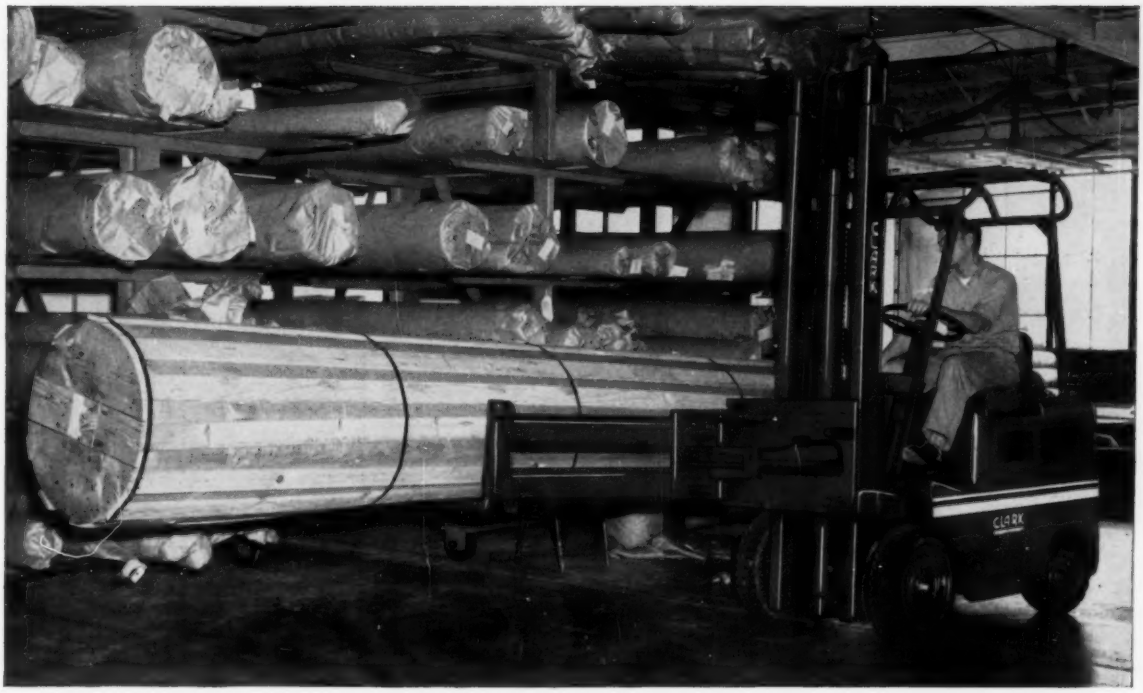
Under construction at **Cheraw (S. C.) Cotton Mills** is a 10,000 sq ft addition to be utilized for finishing and inspection of loom-finished fabrics. This is the plant's third expansion of facilities since it started production of synthetic fabrics in 1950.

At special ceremonies held recently in Clarkdale, Ga., Albert C. Gray, general manager of Coats & Clark Southern Spinning Mills, acted in behalf of **Coats & Clark Inc.** in presenting a $500 contribution to the Rock Eagle 4-H Center at Eatonton, Ga. Each summer 5,000 boys and girls receive a week's vacation at the center for less than $10 each, with supervised recreational and educational training and Christian inspirational guidance.

Two investment companies, First Albany (N. Y.) Corp. and Victoria Investment Co., Ltd., Nova Scotia, have acquired the controlling interest of **Faith Mills, Inc.,** Averill Park, N. Y. A. M. Butler, vice-president and general manager of Faith Mills, Inc., continues in that capacity. The new president is Daniel V. McNamee, Jr., and treasurer is Arthur W. Bedell. No change in operation of the mills is contemplated.

Oscar Heineman Corp., founded in Chicago 62 years ago, is closing its

(*Continued on page 42*)



How to handle 18 foot loads in a 7 foot aisle

Here's an answer on how to handle over-sized loads in narrow aisles. Oregon Flax Textiles of Salem, Oregon found a solution (saved money, too) with a pivoted fork bar on a Clark Carloader. Here's How:

Finished carpeting, in rolls 18 ft. long and weighing as much as 1500 lbs., is lifted by the Clark truck and swings 90° into a horizontal position alongside the operator. With the roll to the side of his truck, the driver can easily negotiate the 7 ft. aisles.

The operation of the pivoted fork bar is completely hydraulic, and can quickly be adjusted to any angle within the 90° arc. On tight corners, the driver merely adjusts the load-swing for clearance with simple controls mounted under his right hand. Within the limits of truck capacity, over-sized material is no longer a problem.

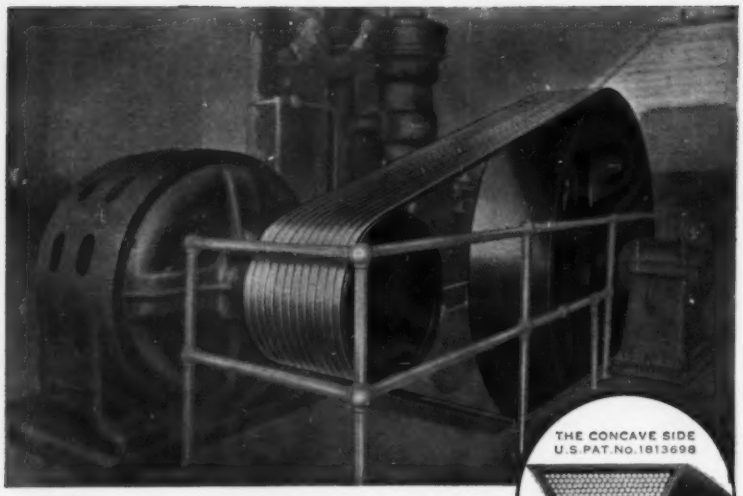
Iron out *your* special handling problems, too. No job too big—too difficult for versatile Clark equipment. Get full details on this operation! Write for Clark Application History 16-D-22, or call your local Clark dealer, in the Yellow Pages under "Trucks, Industrial".

Unique way to store long rolls

Racks are mounted on rollers and are easily pulled out so that fork truck can load or unload any specific roll or rolls. Easily accessible, high storage now possible.

Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 61, Michigan

CLARK EQUIPMENT



THE CONCAVE SIDE
U.S.PAT.NO.1813698

Gates

Why a V-Belt with CONCAVE SIDES wears longer

Fig. 1

Fig. 1-A

It is easy to demonstrate to yourself why the concave sides (Fig. 1) of the Gates belt greatly lengthen belt life.

Simply bend a Gates belt and feel the sides. Notice how these precisely engineered concave sides *fill out* on the bend and *become straight.* Thus a Gates belt grips the sheave groove evenly (Fig. 1-A) and wear is distributed uniformly across each side of the belt. That means longer belt life; lower costs.

Make the same test with a straight-sided belt (Fig. 2) and see what happens. The sides bulge out on the bend (Fig. 2-A) concentrating the wear at points shown by arrows.

To assure longer wear and keep belt costs down, specify the V-belt with concave sides—Gates Vulco Rope . . . readily available from nearby distributor stocks. The Gates Rubber Company, Denver, Colorado —*World's Largest Maker of V-Belts.*

Fig. 2

Fig. 2-A

There are Gates Engineering Offices and Distributor Stocks in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.

TPA 68

Gates VULCO ROPE Drives

What the TEXTILE MILLS are doing

(Continued from page 40)

plant there and transferring all operations to its Concord, N. C. plant. Donald G. Brewster, president and general manager, says the move is necessary because there is no longer sufficient throwing business in the Middle West to make operation profitable. The Concord plant, purchased four years ago, is a modern, air conditioned unit with the latest throwing equipment. Some of the equipment from the Chicago plant will be installed at Concord, some scrapped, and some stored. A Chicago sales office is to be maintained at the same address under the personal direction of Mr. Brewster, who will spend a portion of his time there.

To stimulate employee interest in the variety of materials produced by **Hanes Dyeing & Finishing Co.,** Winston-Salem, N. C., a show case display containing samples of finished products has been introduced. The first exhibit consisted of ledgers and notebooks using the plant's binding cloth. Also scheduled for the display, which is changed every two weeks, were convertible automobile tops, furniture shipping pads, seed bags, dog wiping cloths, pillow ticking, shoe linings, radio grills, and buffing wheels. Each item is accompanied by a legend telling why the operative's skill is important in the dyeing and finishing processes.

Following the recent retirement of D. Rothenberg, proprietor of **Highland Knitwear,** Brooklyn, N. Y., the mill was liquidated.

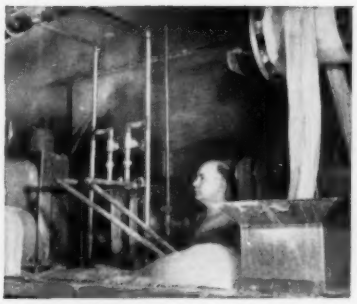
Officers of the new corporation resulting from the merger of **Huntley Hosiery Co.** and **Carolyn Hosiery, Inc.,** both of Charlotte, N. C., are: Baxter D. Huntley, president and treasurer; Edward G. Kuhn, vice-president; M. L. Huntley, secretary; and Buford D. Griffin, assistant secretary-treasurer. Weekly production of women's full-fashioned hosiery is expected to reach 2,200 pairs.

Andrews-Alderfer Co., Akron, Ohio, was recently purchased by **The Kendall Co.,** Walpole, Mass. The acquisition of the foam-fabric material manufacturing concern was effected to strengthen and diversify the Kendall Co.'s businesses in industrial markets.

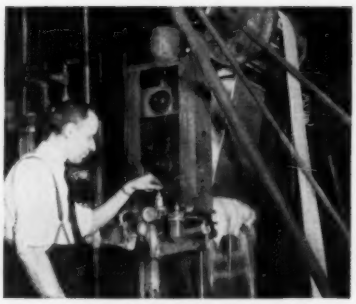
(Continued on page 227)

Here's How Bates Cut Bleaching Costs

① Cloth goes from desizing bin into first washer

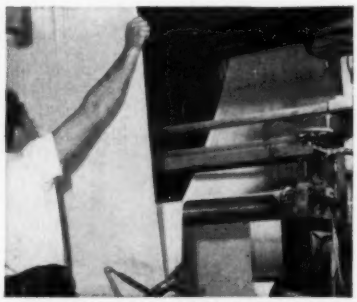


② ...enters saturator containing alkaline peroxide bleach



③ ...moves from saturator into heater tube attached to J-box

④ ... travels through washer into bin after 1- to 1½-hour bleach in J-box



⑤ ...is opened to full width as operator starts it through padder

New Du Pont single-stage system speeds bleaching, increases output at the Edwards Division Plant

Bleaching production is up, and costs are down. That is the experience of the Edwards Division of Bates Manufacturing Company, after one year operation with the new Du Pont one-step continuous system, which replaced its batch system. Bleaching time was cut to 1 to 1½ hours. Utilities and labor costs were lowered. High output combined with economic production gave Bates a desirable lower over-all bleaching cost.

The Edwards unit was the first of a number of commercial installations to use the new one-pass process—just one chemical treatment to get quality bleaching at high speed. Success of this installation and its operation came about through the close cooperation among Bates operating men, Du Pont technical service and the equipment manufacturer.

This is just one example of how Du Pont research and practical engineering are serving the textile industry. There are many more. If you're interested in finding out how your bleaching system can be modified to operate on the new one-step principle, contact your Du Pont representative, or mail the coupon below.

NOTE: *Du Pont does not build or sell bleaching equipment. Du Pont systems are available from leading equipment manufacturers. The equipment for Bates was built by the Rodney Hunt Machine Co., Orange, Mass.*

Send coupon for details

DU PONT PEROXIDES

ALBONE® hydrogen peroxide, 35% and 50%

PERDOX® sodium borate perhydrate

SOLOZONE® sodium peroxide

Sodium perborate tetrahydrate

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department TI-2
Wilmington 98, Delaware

☐ Please send full information about the new Du Pont single-step continuous bleaching system.

Name_____

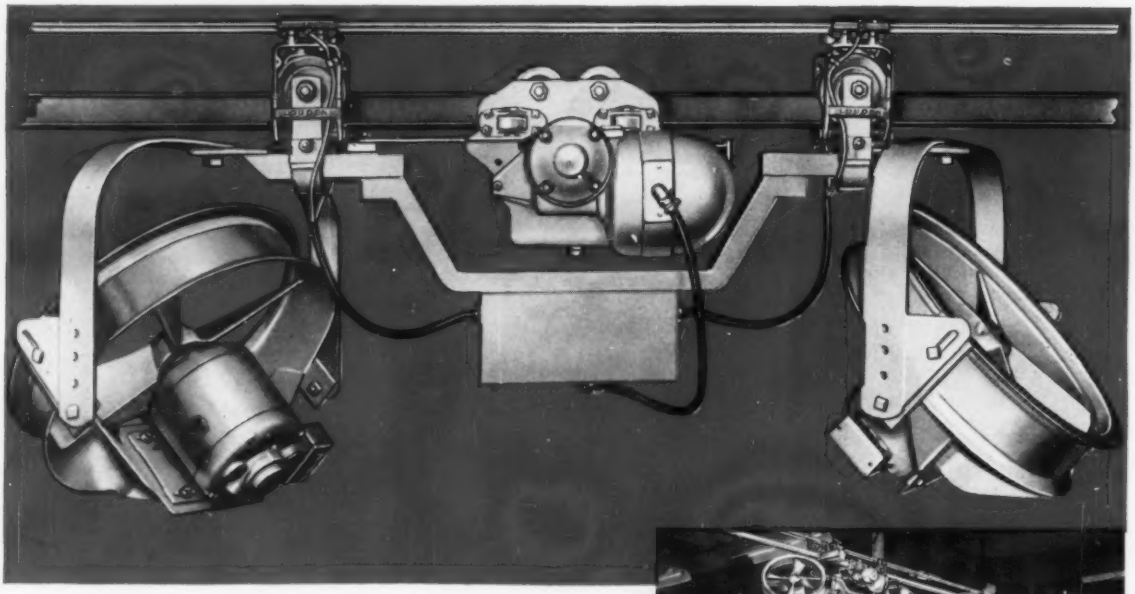
Title_____

Firm_____

Street & No._____

City_____ State_____

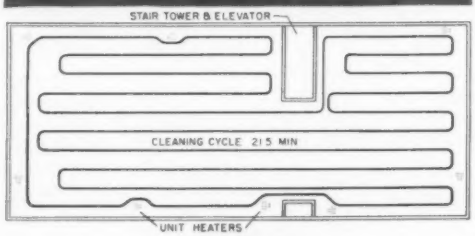
the Louden Automatic TWIN-FAN CEILING CLEANER



KEEPS MILL CEILINGS CLEAN AND LINT-FREE

The Louden Twin-Fan Cleaner is proving a boon to more and more mills . . . because it keeps their ceilings *continuously* clean, *continuously* free of lint. The twin fans sweep both sides of the track simultaneously. Each fan is independently adjustable and can be pointed in any direction, thus meeting the special needs of your room. It cleans without disturbing machine processes going on below. The threat of "gouts" or "slubs" is eliminated, together with the need for manual blowing down, or ladder climbing to adjust stationary fans. There are no dead air pockets; humidity is even throughout. Automatic shut-off and turn-on for passage through areas where blowing is not needed is one of the features available. And you can be sure of highest dependability, efficiency and economy because of Louden's long experience in building Monorail Equipment of every type. Let a Louden engineering representative tell you more, what it will cost, what you will save. Your inquiry will receive prompt attention.

In the installation pictured and diagrammed above, a Louden Automatic Twin-Fan Cleaner travels continuously over a Louden Track 2,800 feet long. It makes the complete round trip every 22 minutes, blanketing the entire spinning



THE LOUDEN MACHINERY COMPANY
6202 Court St., Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems, Inc.

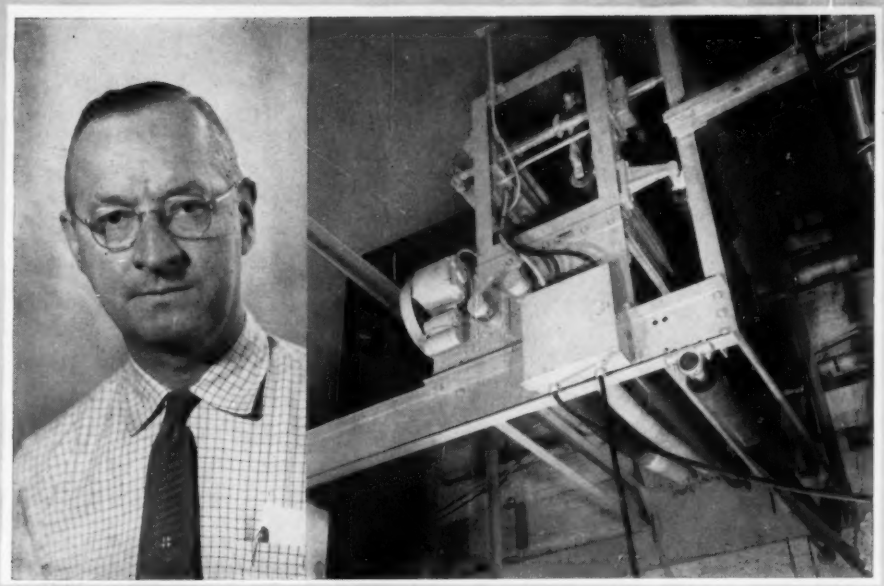
Louden
MONORAIL & CRANES

Since 1867—the first name in materials handling

Mount Hope SYSTEM

Weft Straighteners at Apponaug

save time and money
reduce seconds—increase efficiency



E. Wesley Adams, Plant Engineer, The Apponaug Company: "Operation of Mount Hope Weft Straighteners with push button control is so easy that handicapped workers, who otherwise might not be employed, become experts."

After partial drying through dry cans, this Mount Hope Unit straightens weft or filling threads before fabric enters final drying in the tentering operation.

Ask for details or have a Mount Hope Production Cost Engineer advise you.

Originator of Modern Expanders
Leader in Cloth Handling Equipment

Southern Repair Shop—Charlotte, N. C.

MOUNT HOPE
MACHINERY COMPANY
15 FIFTH ST., TAUNTON, MASS.

TYPE "DW"

Super-Speed WARPER

The new Barber-Colman Type "DW" Warper, shown above, has all the features of the familiar Type "VW" plus several new ones. A pivoted support moves the comb forward as the beam fills. The driving drum, clutch, brake, and motor are now arranged back of, rather than beneath, the beam. Construction throughout is larger and stronger, to handle the heavier loads of which this warper is capable. The Type "DW" Warper will wind slasher beams as large as 40" head. *For further details, please write for descriptive literature, or ask your Barber-Colman representative.*

40"-head BEAMS REDUCE COSTS

Using 24s yarn as an example, the new Type "D" 6-pound cheese holds 120,000 yards. A 40"-head section beam of 529 ends weighs 1,050 lbs. and holds 40,000 yards, resulting in 3 beams per cheese and reducing warper loadings accordingly. In the slashing, assuming 1200-yard loom beams, a 40"-head section beam will produce 39 loom beams per set, for an average of only 3.16 slasher creelings per 120-hour week.

USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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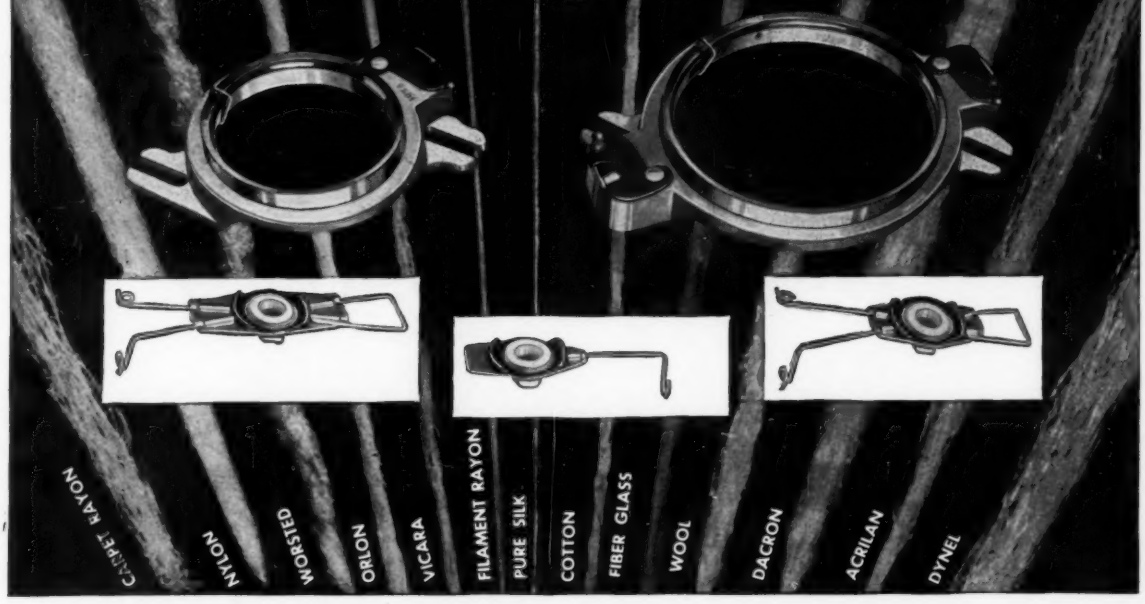
HERR

Special CONICAL RINGS

Special FLYERS

To help YOU produce SPECIAL BLENDS

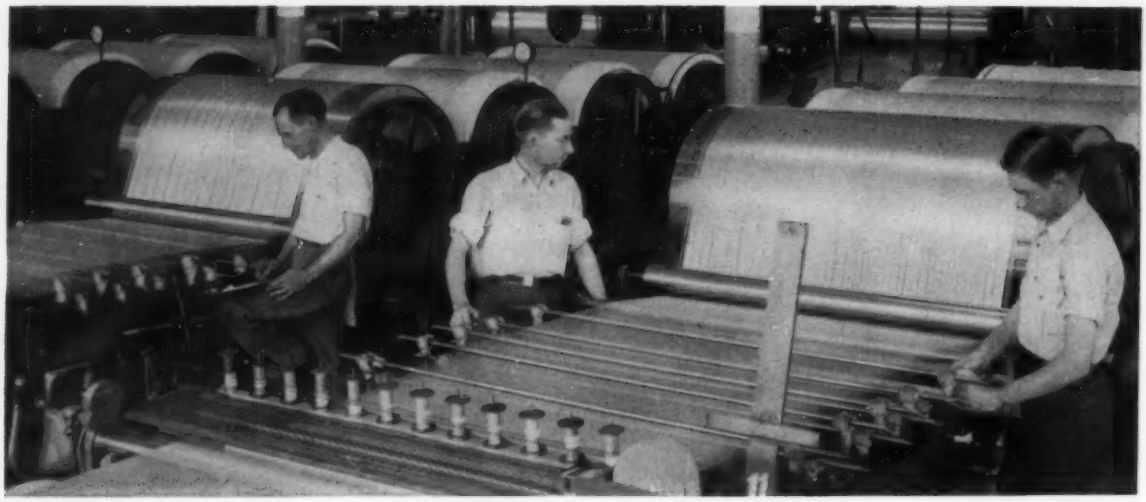


Every new fiber developed brings to the textile plant both opportunities and problems. New physical characteristics of the fibers usually require changes in processing equipment. Hundreds of variations have been made in Herr Flyers to accommodate the new yarns. Many special Herr Conical Ring and Traveler combinations have been produced. If you have a spinning or twisting problem — Let us help you.

HERR Manufacturing Company, Inc.
310 Franklin St., Buffalo, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

a clean break at the split rods for your DACRON yarns!



with NOPCOSIZE® D

(water soluble synthetic polymer size)

...and you don't need stainless steel equipment
(Nopcosize D contains no corrosive acids)

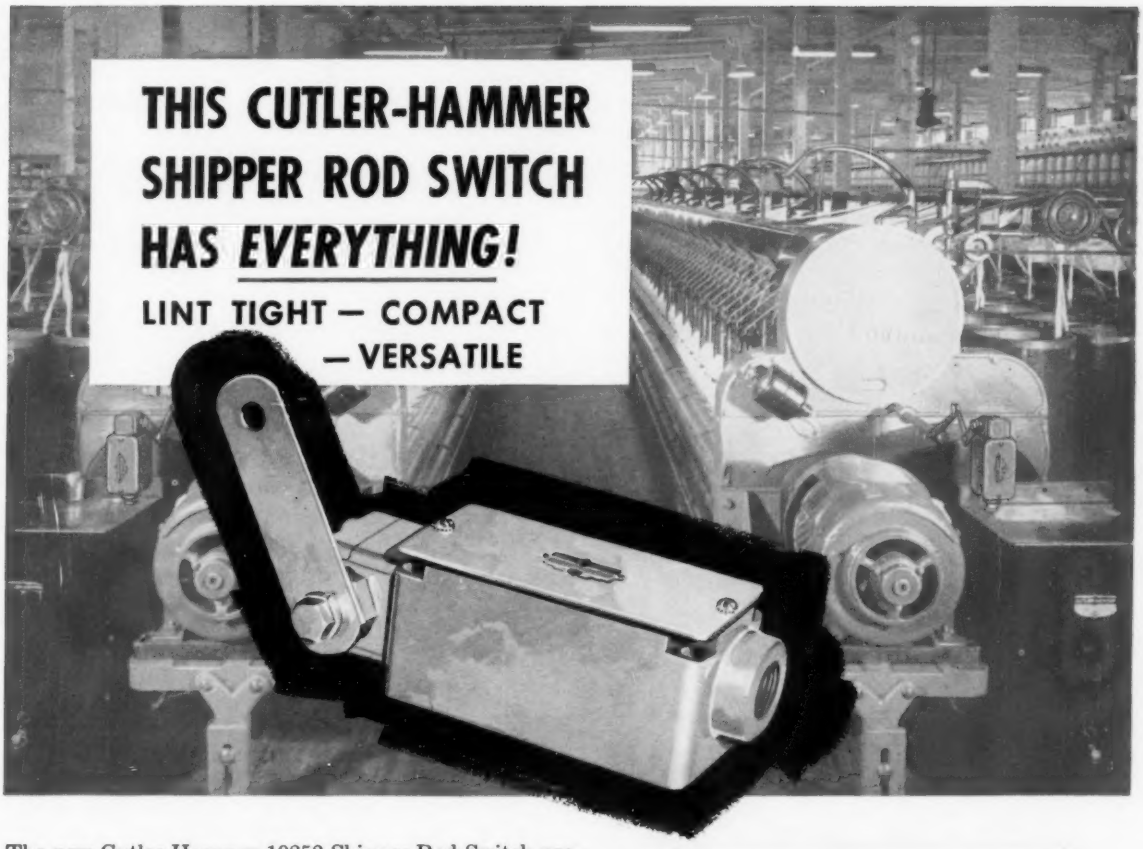
Now *any* mill can slash Dacron* filament yarn efficiently and economically. In addition to its outstanding split rod performance and non-corrosive action, Nopcosize D provides these further advantages: (1) Nopcosize D is a liquid; (2) It does not foam in the quetsch pan; (3) It prevents the sized yarn from becoming gummy or tacky during weaving at 60%-75% relative humidity and constant temperature of 78°-80° F; (4) It is easily removed with soap boil-off; (5) It has excellent storage stability; (6) It reduces static conditions of filament yarn to a minimum.

Write today for testing samples and full information.
Nopco Chemical Company, Harrison, N. J.

*DuPont Reg. T. M.

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Ont. Canada



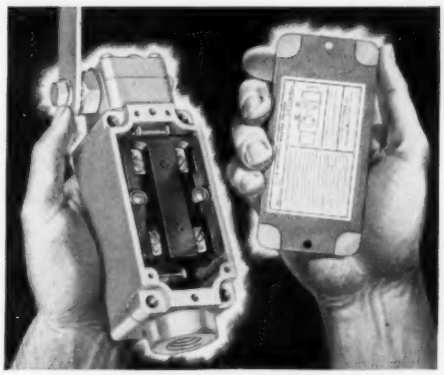
The new Cutler-Hammer 10252 Shipper Rod Switch provides every feature the textile industry wants. It's *fully* lint tight. It's *amazingly* compact. It's *really* versatile . . . and here's why.

LINT TIGHT—Lint, the big enemy of textile machines and control, is locked out of the 10252. Check these features of construction: 1. heavy die cast enclosure; 2. threaded conduit opening; 3. external mounting holes; and 4. heavy gasketed cover.

COMPACT—Small enough to fit in the palm of your hand, but big in performance. Large heavy duty butt type contacts and a sturdy mechanical mechanism assures years of dependable economical operation. Isolation of the electrical and mechanical mechanisms prevent the wires from "jamming" the switch mechanism.

VERSATILE—The 10252's mounting versatility cuts installation costs to a minimum. Here is a shipper rod switch which you can mount in any position, rotate the lever head to the correct motion plane, select either clockwise or counter-clockwise lever action without altering the switch mechanism, and accurately position the lever for precise operator "feel" and "pin-point" jogging.

The unique double contact design provides both positive motor starting and low voltage protection. The snap action closing of the first contact starts the motor. The second contact is pneumatically delayed to open to provide the low voltage protection. The delay period allows the motor starter interlock to pick up and maintain the circuit. Order your new C-H 10252 Shipper Rod Switch from your Authorized Cutler-Hammer Distributor today. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.



The perfect shipper rod switch *for roving frames—drawing frames—combers—narrow fabric looms—carpet looms.*

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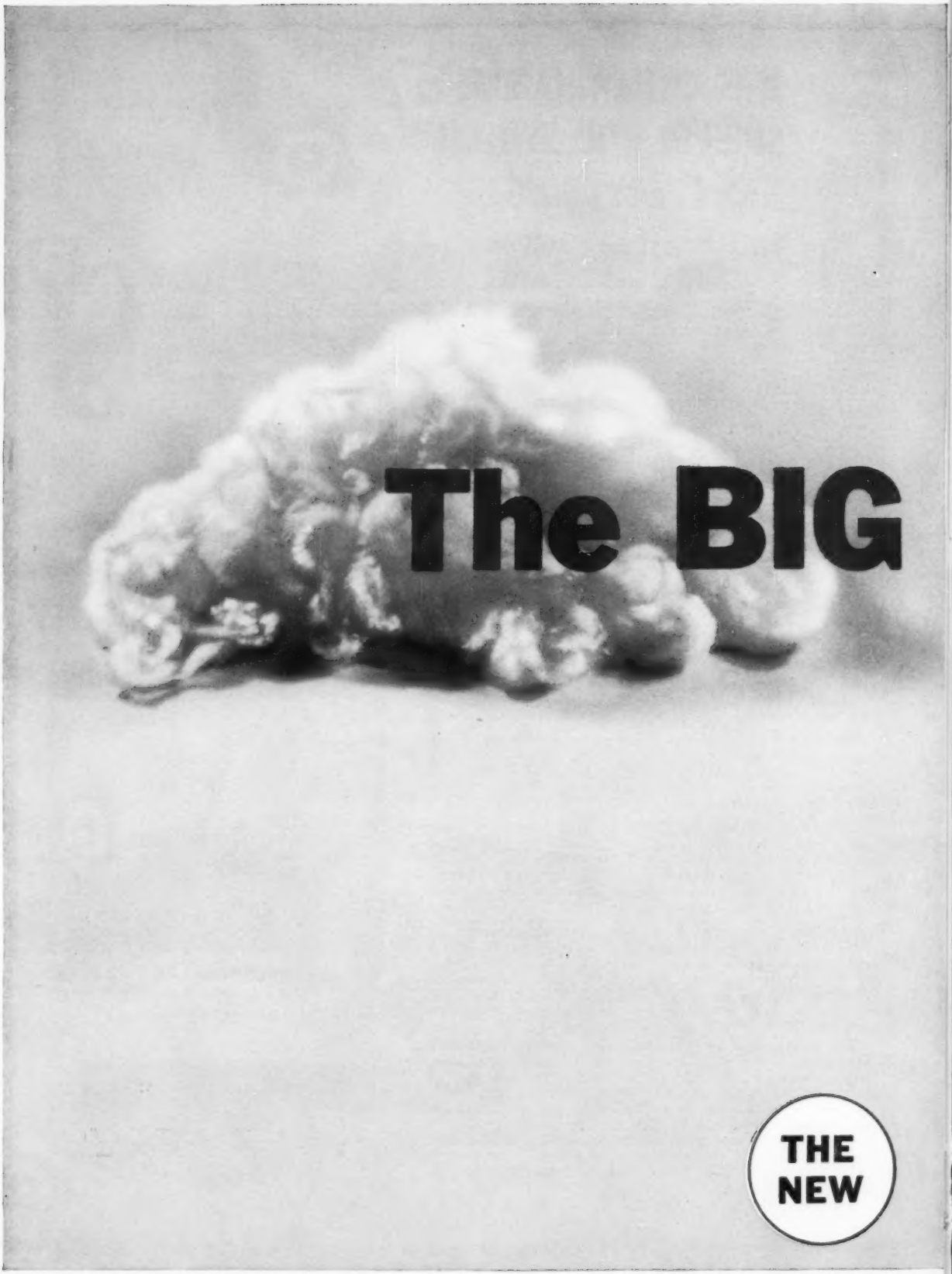
MOTOR CONTROL
C-H

WHAT'S NEW IN MOTOR CONTROL? ★ ★ ★ GET IT *FIRST* IN CUTLER-HAMMER


The BIG
THE
NEW

- **BRIGHTER LUSTER**
- **LOWER DYE COSTS**
- **BETTER CRIMP**
- **GREATER RESISTANCE TO ABRASION**
- **GREATER STRENGTH**
- **NEW ECONOMY FOR YOU**
- **MORE RESILIENCY WITH LESS CRUSHABILITY**

SEVEN

Put new life in your product...bring new products to life

A great new fibre capable of giving your product seven unique, highly desirable qualities has been developed. It is the NEW Nylon Staple, produced by IRC.

Put to the test by leading manufacturers, the NEW Nylon Staple has provided dramatic product developments and improvements through these seven great features.

IRC's technical staff stands ready to work with your people—at your plant to put the Big Seven to work for you. Call us.

Nylon Staple I·R·C

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Sales Offices: 500 Fifth Avenue, New York 36, N. Y.
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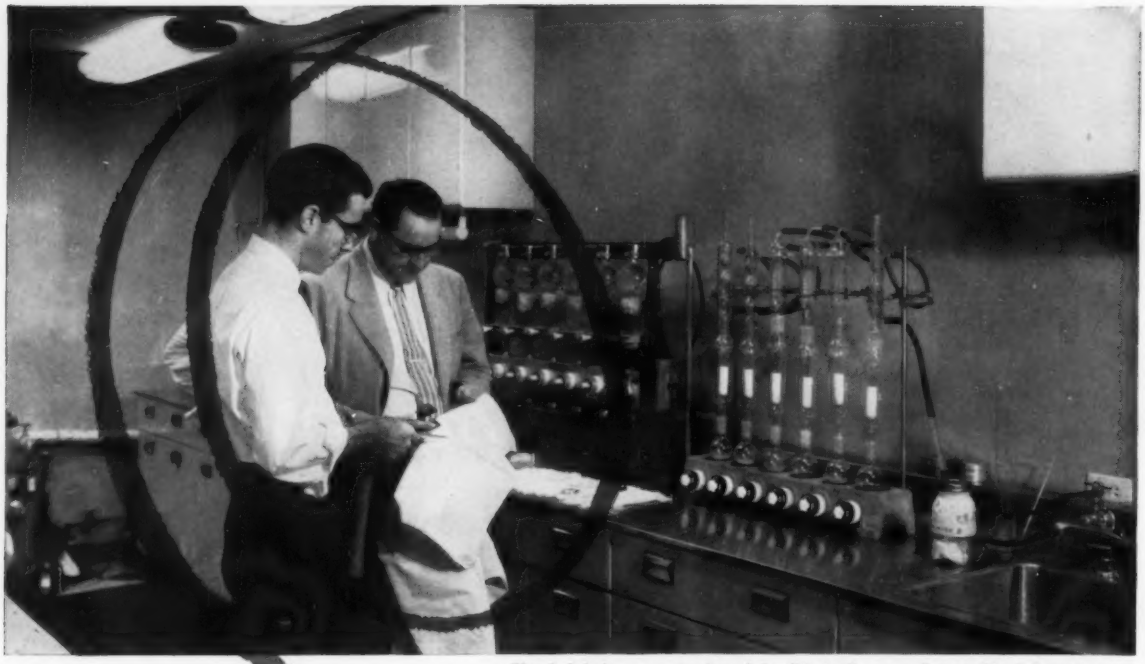

Sized fabrics are analyzed in Clinton's new Greenville laboratory

to serve you better

Now textile industry technicians may obtain counsel regarding their sizing problems, needs and processes with new convenience and speed. With the opening of Clinton's new Greenville, S. C., laboratory facilities, some of the most modern scientific and technical equipment in the entire South is at your disposal.

This Clinton expansion emphasizes the importance placed on *serving* the textile industry. Because of this *service* approach to their needs, many mills have, for years, made it a standard practice to use Clinton starches in their warp sizing and finishing operations.

Visit this new Clinton laboratory soon, won't you? No obligation — and you'll profit by getting acquainted with this new facility. Remember — it's set up *to serve* YOU.

. . . and remember : technical service in connection with your specific problems is available upon request

Quality products

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CLINTON

CLINTON FOODS INC.
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ALSIMAG® Guides have the RIGHT COMPOSITION FOR EACH JOB!

Including new, harder AlSiMag Aluminas

LONGER LIFE. For years AlSiMag guides in various materials have set long life records. Hard. Homogeneous. Highly resistant to wear.

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VOLUME PRODUCTION. Demand has multiplied for every type AlSiMag guide. Accelerated output keeps pace. The finest production facilities operate around-the-clock, including huge, high-temperature, continuous-fire kilns which help achieve the **superior physical, dimensional** and **finish** characteristics of AlSiMag guides. A sizable plant section is now devoted exclusively to processing and firing AlsSiMag Aluminas.

AlSiMag's wider range of versatile materials permits selection of the **right** composition for every guide application! Over half a century's "know how" devoted to each order.

1. AlSiMag 192, cream colored, standard of the industry. **2.** AlSiMag 193, metallic gray, a conductor of electricity. **3.** Typical AlSiMag 491 Alumina guides, blue in color, which enjoy such an industry wide reputation for wear resistance. **4.** Guides in AlSiMag 513, an extremely hard pink material developed for slightly different applications. **5.** Guides in new AlSiMag 614, a white material—the hardest yet produced.

To meet—and usually exceed—the most exacting requirements, use AlSiMag guides. Complete information and samples on request.

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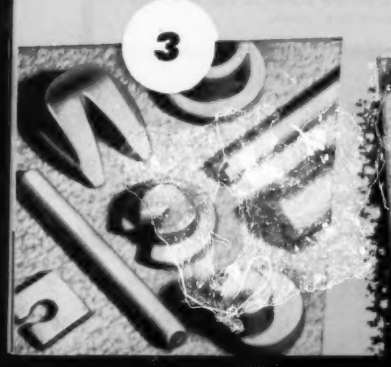

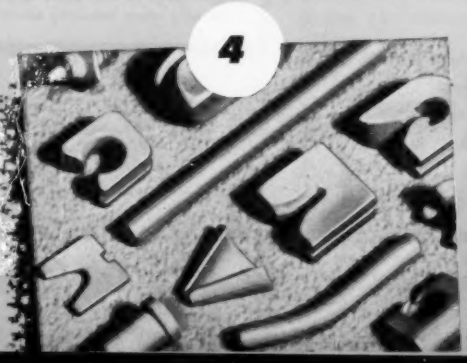

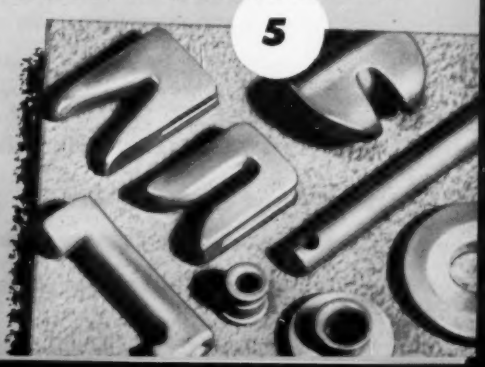

MAKE YOUR BALING A *Profitable* OPERATION

with dependable

LOGEMANN BALING PRESSES

Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Tell Us Your Baling Problems

That's the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for mill owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance cost. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your plant, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

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GARNET RED

one of the colors shown in the

FALL 1956

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COLOR NEWS LETTER

The Franklin Process Color News Letter for Pre-Spring 1957 will soon go to press. Keep up to date in color trends. Send for your copy NOW.

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DYEING EXCLUSIVELY ON FRANKLIN SPRING TUBES

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This amazing new product by Metro-Atlantic . . . originators of water phase printing of gold and silver metallics . . . is revolutionizing the entire metallics printing field.

METAPERM KGS is a vastly improved, highly stable resin mixture developed especially for printing metallics in the water phase. This new product is easier to run in that foaming, drying out, and sticking in the engraving have been eliminated.

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Improve your metallic printing methods, now . . . and give your customers a superior product. Write, phone or wire today for complete technical data. Ask for a test run at your convenience.

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- SCREW ELEVATORS
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- SUPER-CAPACITY
- PERFECT DISCHARGE

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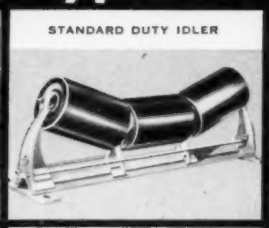
- BELT FEEDERS
- PLATE FEEDERS
- SCREW FEEDERS
- RECIPROCATING
- VANE FEEDERS
- HEAVY DUTY CAST MANGANESE
- APRON FEEDERS

POWER TRANSMISSION EQUIPMENT

- BEARINGS
- STEEL PULLEYS
- CAST IRON PULLEYS
- CHAIN DRIVES
- SHAFTING
- COLLARS
- CLUTCHES
- SPEED REDUCERS
- V-BELT DRIVES
- SHAFT HANGERS

ID-5512

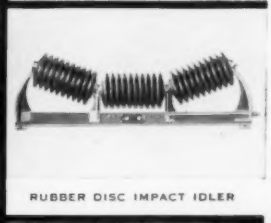
SHIP LOADING


STANDARD DUTY IDLER

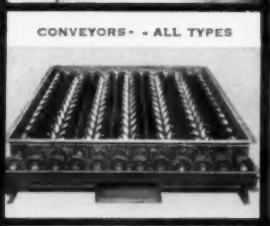
QUARRIES

GRAIN HANDLING CONVEYOR

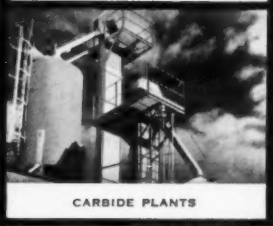
FEED MILL

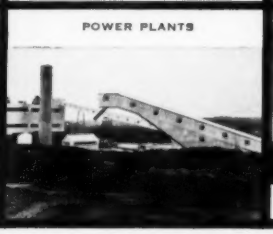

RUBBER DISC IMPACT IDLER

MINES

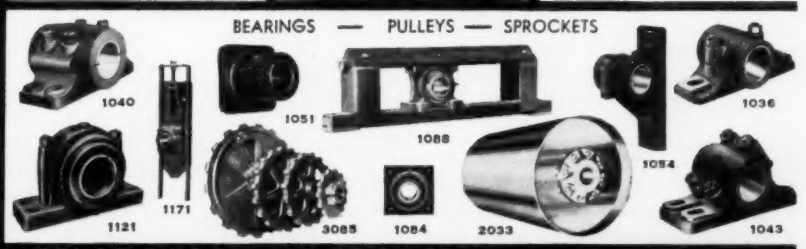

CONVEYORS- - ALL TYPES

COAL MINES


CARBIDE PLANTS


POWER PLANTS

OIL MILLS



INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
BIRMINGHAM, ALABAMA

ENGINEERS — ATLANTA • CLEVELAND • DALLAS • KNOXVILLE — MANUFACTURERS
MEMPHIS • NEW YORK 17, NEW YORK

On-the-job problems solved on the job

Think of this as your dye house. Right now you're looking at packages from the first full-scale commercial run of your new high-temperature dyeing process. And the fellow in shirtsleeves? He's the demonstrator from Du Pont. He's been on this job in your plant ever since the first, rough planning stages.

He's helped you select the proper equipment; he's helped work out the correct formulations for the results you want and has even trained your operators in the new routine. Now, with all the "bugs" worked out, the process is yours—the problem's solved—his job is finished.

Any of the Du Pont demonstrators could fit into this picture. They are all highly trained men, well qualified to handle any dyeing and finishing problems. They'll help you with jobs like the one outlined above. Matter of fact, they'll take on any job, from simple shade matching to the most complex process.

Remember—when you deal with Du Pont, you deal with the finest technical-service group in the field. This complete technical service is ready to work with you. Just give us a call, or write to the nearest District Office. See the convenient list at right.

Du Pont Dyes

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Many strange fibers are "meeting on the frames" today, as new developments continually increase the number and variety of synthetics and blends.

Controlling these new fibers and filaments in spinning or twisting can be tricky business. And you seldom have much time to experiment. Let Victor *experience* take the place of costly trial-and-error.

Victor "keeps a step ahead" by working with the producers during development of new synthetics. That's why, when they reach you for production, Victor is prepared to help you overcome any new processing problems they present.

When you need help to get top-quality and trouble-free production—with synthetics, blends, or natural fibers—call in a Victor Service Engineer. Write, wire, or phone the nearest Victor office for prompt service.

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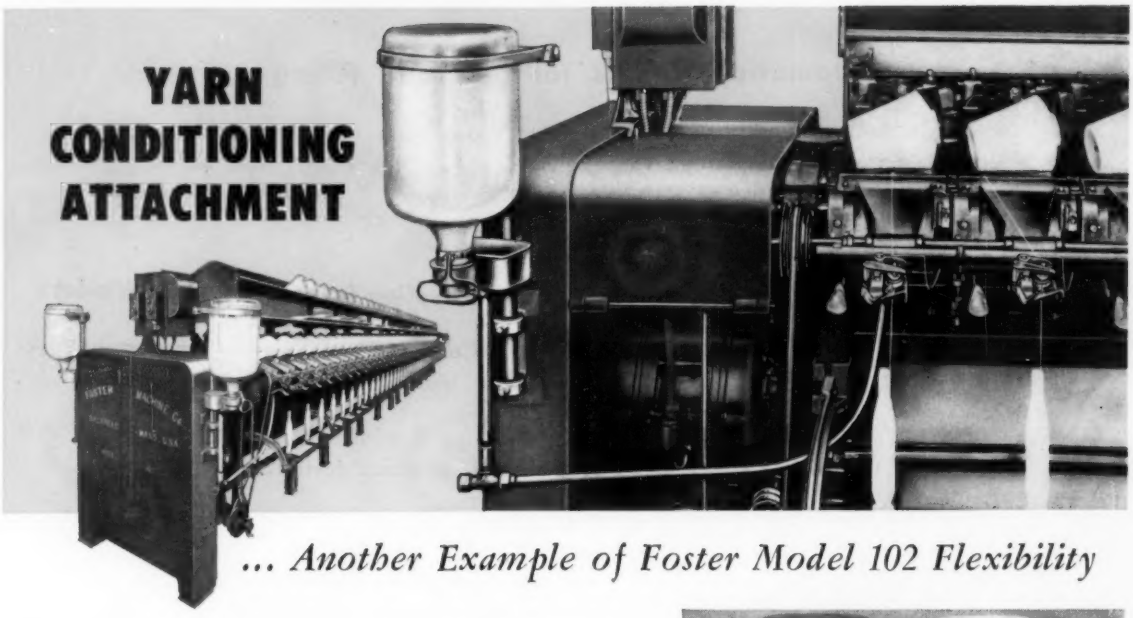
you save money at higher temperature with

RAPIDASE®

Continuous high temperature de-sizing has been adopted by virtually every large dyer and finisher in the country. The majority of these use RAPIDASE. One reason is that of all enzyme de-sizing preparations, RAPIDASE is most heat resistant and consequently most suitable for the speedier and more economical de-sizing at higher temperature.

WALLERSTEIN COMPANY, INC., 180 MADISON AVENUE, NEW YORK 16, N. Y.

YARN CONDITIONING ATTACHMENT



... *Another Example of Foster Model 102 Flexibility*

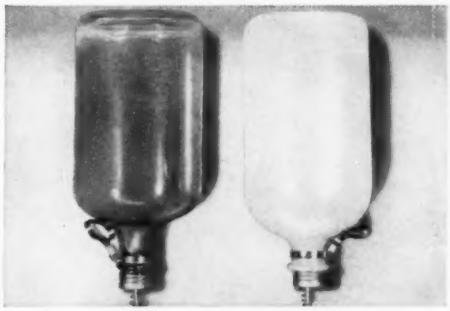
This flexibility feature of the Foster Model 102 Winder is particularly important, because some types of winders can not use yarn conditioning attachments.

This attachment lubricates and softens yarns with a wax or oil emulsion. It restores normal moisture content and gives the yarn a soft hand, so that it will run well in the knitting machine and reduce needle breakage.

Readily applied to existing machines, or supplied with new machines, it is particularly useful when winding mercerized yarn or package dyed yarn. It can condition any type of yarn at any speed within the capacity of the machine — up to 750 y.p.m. It also permits numerous variations in percentage of moisture pickup.

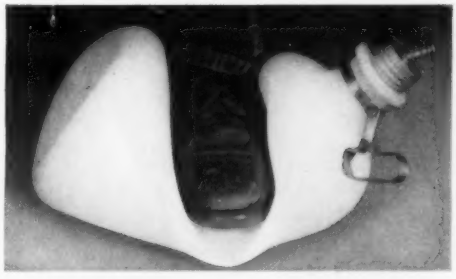
Other flexibility features of the Foster Model 102 are: — 1. Handles any type or count of staple yarn except the coarsest. 2. Produces any cone taper commonly used and any angle of wind from 9° to 18°, with simple and inexpensive changes. 3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. 4. Winds dyed yarn, even when damp. 5. Can be built to wind up to 7" traverse.

Who knows what you'll be winding a few years from now? Be prepared for the unforseen insofar as possible. Get all the facts about the Foster Model 102. Send for Bulletin A-95 now.



GLASS PLASTIC

PLASTIC BOTTLES now available for Foster Yarn Conditioning Attachment. Weigh only 2 lbs. ½ oz. Glass bottle weighs 6 lbs. 15½ oz.



UNBREAKABLE. Does not shatter, if dropped. Lasts indefinitely; eliminates accidents; pays for itself many times over.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U. S. A.
Southern Office — Johnston Bldg., Charlotte, N. C.

A Winder for Every Textile Purpose

Canadian Representative — Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.
European Representative — Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England

Automatic Winders for Rewound Filling

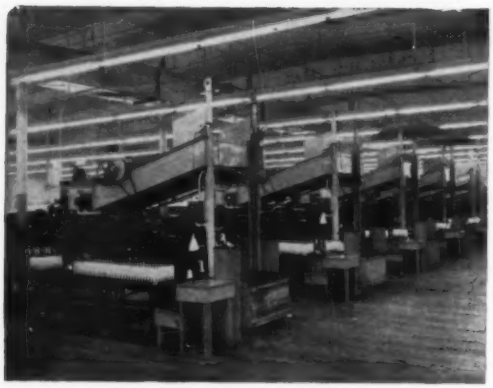
to take advantage of large package spinning, more yarn on filling bobbins, more uniform bunches, better weaving bobbins, and inspected yarn, all of which go to make a better fabric.

Abbott Traveling Spindle Package Winders

Automatic Cone or Tube Winders for warping, dyeing, twisting, quilling, sales.

Can be equipped with any one of a variety of slub catchers and inspection devices.

Production up to 1000 bobbins per hour per operator.



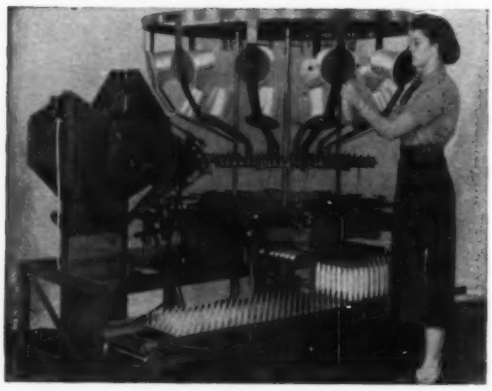
Abbott Traveling Spindle Automatic Quillers

For winding cotton, spun rayon, worsted, etc., equipped to doff automatically into baskets, or stack automatically into boxes.

For rewinding woolen yarn from mule and ring frames.

For winding filament rayon and nylon, etc., with automatic pinboard attachment or wide belt inspection conveyor.

Production up to 2500 bobbins per hour per operator.



Abbott Fully Automatic Radial Quiller

For smaller lots and widely diversified mills.

For winding cotton, spun rayon, filament rayon, worsted, wool, etc.

Can be arranged to deliver bobbins to Pinboard Attachment, or into baskets, or into wide belt conveyor.

One operator can run several machines producing up to 2000 bobbins per hour per operator.

Can be equipped with measured yardage device for two-shuttle looms.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.

NEW HORIZONS IN COMFORT

Lanolized®

THE MIRACLE FINISH THAT PROVIDES THE ULTIMATE IN FABRIC BEAUTY AND COMFORT

Thrillingly different, LANOLIZED fabric finishes bring to milady's intimate apparel a new conception in comfort combined with beauty . . . a process that imparts to every fibre—synthetic or natural—an exciting new life and warmth that eliminates clamminess, minimizes static and cling . . . a luxurious, heavenly beauty and comfort that must be experienced to be appreciated.

Your product will be a better product . . . LANOLIZED!

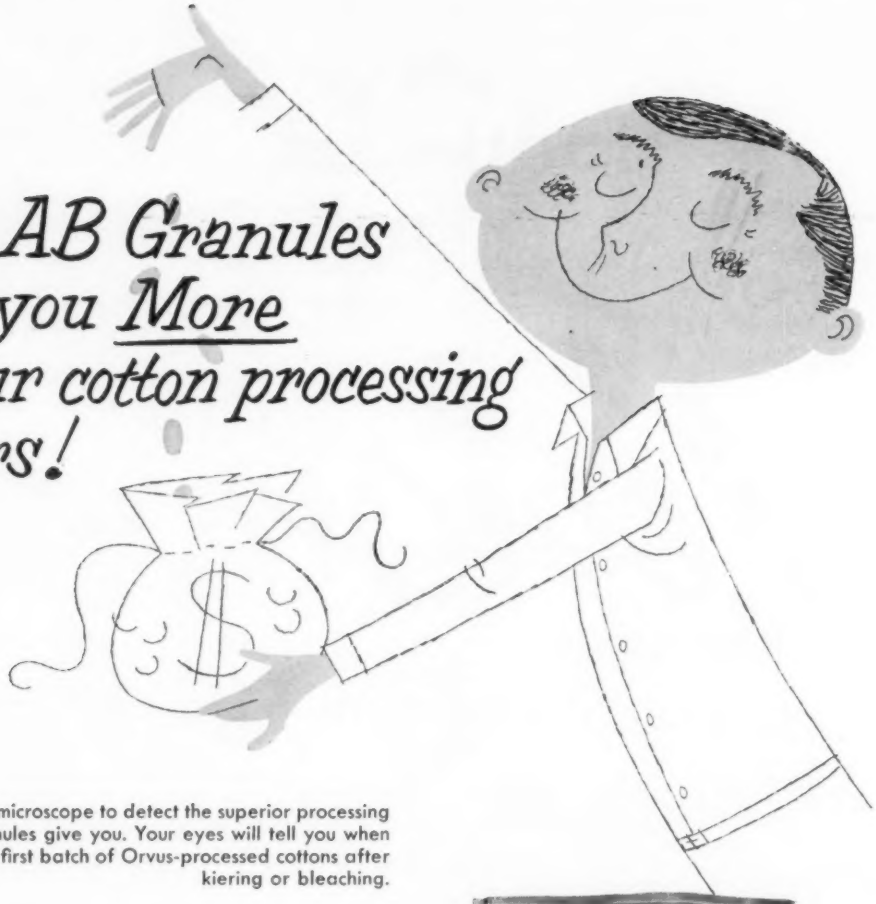
Get the *whole* story. Write today.

SCHOLLER BROS., INC. FOR BETTER FINISHES THAT MAKE BETTER FABRICS

Authorized Manufacturers and Distributors of LANOLIZED—The Miracle Finish. Collins & Westmoreland Sts., Philadelphia 34, Pa. IN CANADA: Scholler Bros., Ltd., St. Catharines, Ontario.

PIONEERS IN TEXTILE FINISHES SINCE 1907

Orvus AB Granules give you More for your cotton processing dollars!



You won't need a microscope to detect the superior processing results Orvus AB Granules give you. Your eyes will tell you when you examine the first batch of Orvus-processed cottons after kiering or bleaching.

In the kier, Orvus AB helps reduce boiling time . . . lowers materially the amount of caustic needed. You'll find the cloth in better condition for bleaching; dye resists are less. This time-tested synthetic has not only exceptional detergent properties, but the ability to hold in suspension the waxes, pectins and other foreign materials which kier boiling must remove.

In the bleaching operations which follow, the performance of Orvus AB Granules is equally efficient. Its superior wetting properties provide more thorough penetration of the bleach, and faster bleaching. In desizing, a small amount of Orvus AB accelerates action of the enzyme. On heavy fabrics it helps carry the enzyme into the cloth itself. And Orvus AB is compatible with all types of enzymes.

You'll discover other Orvus advantages when you've given this efficient synthetic detergent a thorough test. Make that test *soon!*

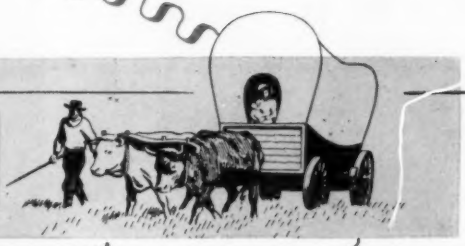
A neutral synthetic detergent of the sodium alkyl aryl sulfonate type.

Procter & Gamble

TEXTILE FINISHES SALES DEPT.
CINCINNATI, OHIO

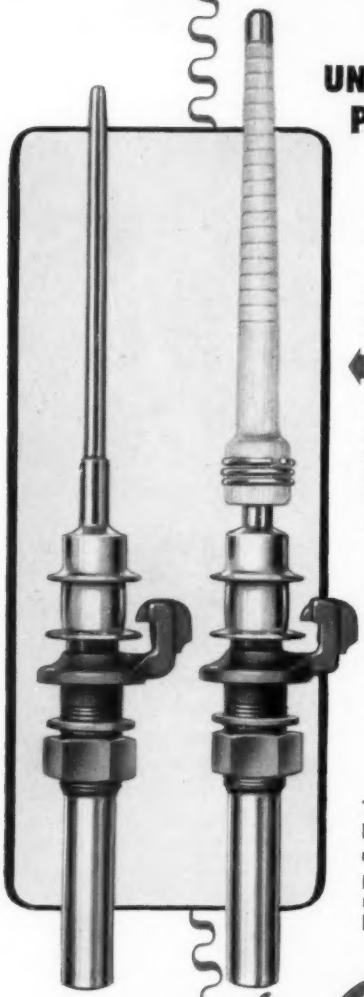
Makers of Olate, Proxols, Orvus and Kyro products—for smoother textile processing.

WHITIN



*Pioneer** SPINDLES
for Spinning

UNEQUALLED for PERFORMANCE
PRODUCTIVITY • LONG LIFE



For outstanding performance, productivity, and low cost of operation, Whitin PIONEER Spindles for spinning are specified by leading mills. Their design, construction, and manufacture are the result of more than a century's experience.

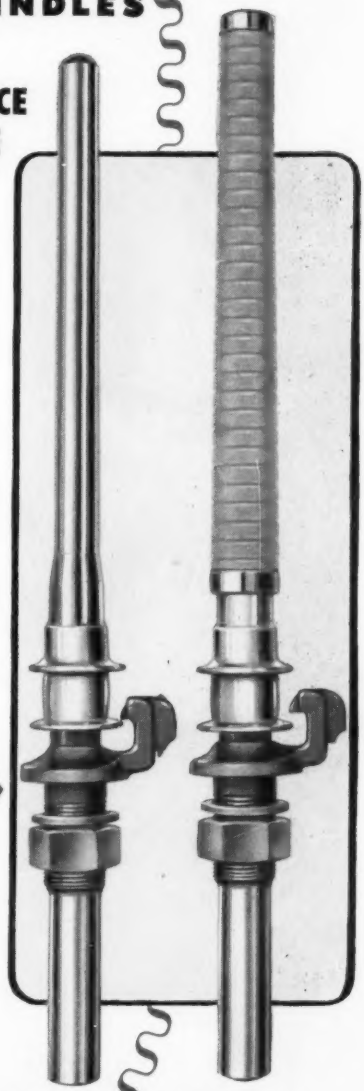
TOP DRIVE TYPE**

Whitin's newest spindle for wood filling bobbins drives the bobbins from inside the bobbin nose or top. Thoroughly tested in large installations in several mills, it provides many attractive advantages over conventional cone drive filling spindles.

- **Increase of 15-20% in spindle speed**
- **Approximately 10% more yarn on the bobbin**
- **Improved bobbin wind secured through better tension**
- **Bobbin centralizing on own axis means less vibration**
- **Improved spinning production and quality**

****ALUMINUM SLEEVE TYPE**

This spindle for paper tubes is acclaimed by the users of approximately 2,000,000 as unmatched for its long wear, simplicity in plumbing and maintenance, smooth running characteristics, and extremely low lubrication costs.



* Trade-Mark

** Anti-Friction, of course

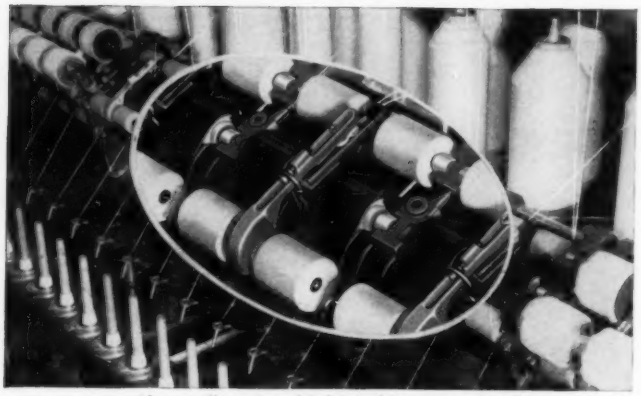
Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Partners in Progress

DIXON CORPORATION ...FAFNIR



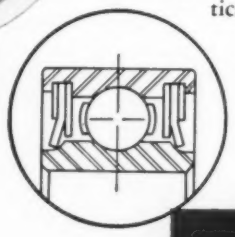
Close-up illustration of Fafnir Ball Bearing equipped Dixon Saddle Guide in operation.

New, Fafnir-equipped DIXON SADDLE GUIDE modernizes drafting at lowest cost

By providing a low cost, better way to weight and guide top rolls, the Dixon Saddle Guide is earning widespread acceptance throughout the textile industry. According to the Dixon Corporation of Bristol, Rhode Island, it is the culmination of eight years' intensive research and experimentation.

Designed especially to function with the Saddle Guide is a front top roll equipped with a Fafnir Teflon-Sealed Ball Bearing. The specially-lubricated Fafnir ball bearing reduces drag, cuts power consumption, resists wear, and prevents the entrance of lint.

Many new developments in textile machinery and equipment feature the advantages of Fafnir ball bearings and ball bearing units. This is often the result of close collaboration between the manufacturers' design engineers and Fafnir ball bearing specialists. Such practical, on-the-job experience is available to help you with anti-friction bearing problems. Write The Fafnir Bearing Company, New Britain, Connecticut.



Sectional view of Fafnir Ball Bearing equipped with Contact Seals of Teflon . . . material that has remarkable self-lubricating properties and low coefficient of friction.

FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

Have **YOU** seen the **LATEST**

why settle for less
than **all-around** fastness?

for multiple dependability, specify

Amanthrene*

VAT COLORS

Behind today's AMANTHRENES lie years of research and experiment . . . years devoted by A.A.P. to helping dyers and printers conquer their most difficult problems of color fastness. By specifying AMANTHRENES for the **printing** and **dyeing** of cottons and rayons, you reap the full benefit of this vast experience, for they give you **multiple fastness** . . . to sunlight, washing, dry cleaning, perspiration, sea water, chlorine or peroxide bleaching and soda boiling.

A complete range of these superior vat colors is at your command . . . in paste and powder forms. You will find them ideal for the printing of fine cotton and rayon dress goods, draperies, slip cover fabrics and perfect for dyeing these same fibres. They are pleasing in self-shades, fully satisfactory in combinations.

For full details on the AMANTHRENE range and data tailored to your individual requirements, please consult our nearest branch. A.A.P. technicians will be happy to arrange a demonstration at your convenience.

AMERICAN ANILINE PRODUCTS, INC.

A A P

AMERICAN ANILINE PRODUCTS INC.

50 Union Square, New York 3, N. Y.
Plant: Lock Haven, Pa.

Branches:
Providence, R. I. • Philadelphia, Pa.
Paterson, N. J. • Chicago, Ill.
Charlotte, N. C. • Chattanooga, Tenn.
Columbus, Ga. • Los Angeles, Cal.

Dominion Anilines & Chemicals, Ltd.
Toronto, Canada • Montreal, Canada

*Reg. U.S. Pat. Off.

AAF Hits the Target for ®ARROW

Air washers behind this bank of Auto-AIRMAT filters require practically no maintenance. These filters, serving the assembly room, represent one of five systems at Cluett, Peabody's Atlanta plant.
Air conditioning system engineered and installed by CARRIER CORPORATION, Atlanta.

Auto-AIRMAT Installations Eliminate Lint Problems at Cluett, Peabody Plant!

LINT, the textile industry's big problem, is no problem at all in the world's largest plant devoted exclusively to the manufacture of shirts. Cluett, Peabody & Co., Inc., makers of the famous Arrow shirts, protect air washers on five systems (totalling 216,000 cfm) with AAF Auto-AIRMAT filters serving the cutting, assembly and laundry rooms.

The Auto-AIRMAT is the *only* filter specifically designed to remove lint fibres from the air and clean itself automatically. The Airmat media, installed in roll form at top of unit, becomes a moving filter curtain that is re-rolled at bottom with its lint load. Clean media is automatically introduced in sufficient quantity to maintain resistance at proper level—and the lint is wrapped up in the roll for easy disposal.

If you have a lint problem, investigate the *lint filter*—AAF's Auto-AIRMAT. For complete product information, call your local American Air Filter representative, or write us direct for a copy of Bulletin 234.

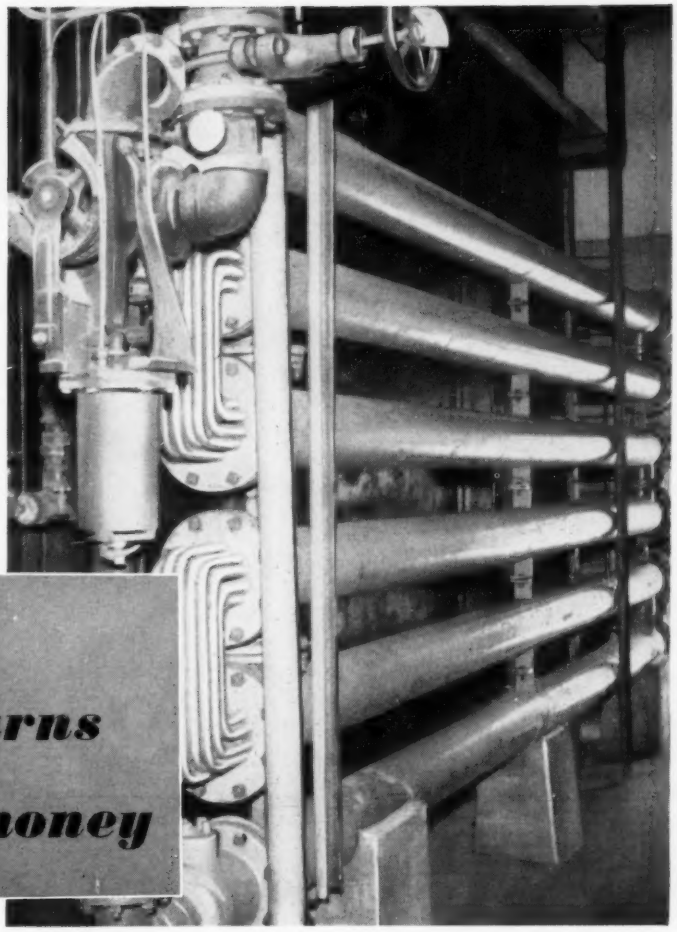
AAF herman nelson **American Air Filter** COMPANY, INC.
275 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

Herman Nelson Unit Blowers Herman Nelson Propeller Fans

— BETTER AIR IS OUR BUSINESS —

Illinois Steam Heating Specialties AAF Filters and Precipitatorr

only a Bready system of recovering heat from polluted waste water gives you



the most $ returns for your money

A SYSTEM for recovering heat from polluted waste water should be *engineered* to your plant's needs to produce the greatest fuel economy and maximum in boiler h.p. recovery. It should be expansible to take care of future needs, clean itself automatically and provide for chemical cleaning when needed. *Only a Bready System* gives you these advantages and cost-saving benefits.

Bready Systems of Waste Heat Recovery are saving hundreds of thousands of dollars every year for textile mills and laundry plants from coast-to-coast. Replacement of old-style and out-moded heat exchanger equipment is justified on the basis of actual fuel-savings alone. It will pay you to investigate the full advantages of a Bready System of Waste Heat Recovery in your plant. Write, wire or phone for complete details today! Dept. T.I.

Ludell *Manufacturing Company*

5200 WEST STATE STREET • MILWAUKEE 8, WISCONSIN

MANUFACTURERS OF BREADY SYSTEMS OF WASTE HEAT RECOVERY

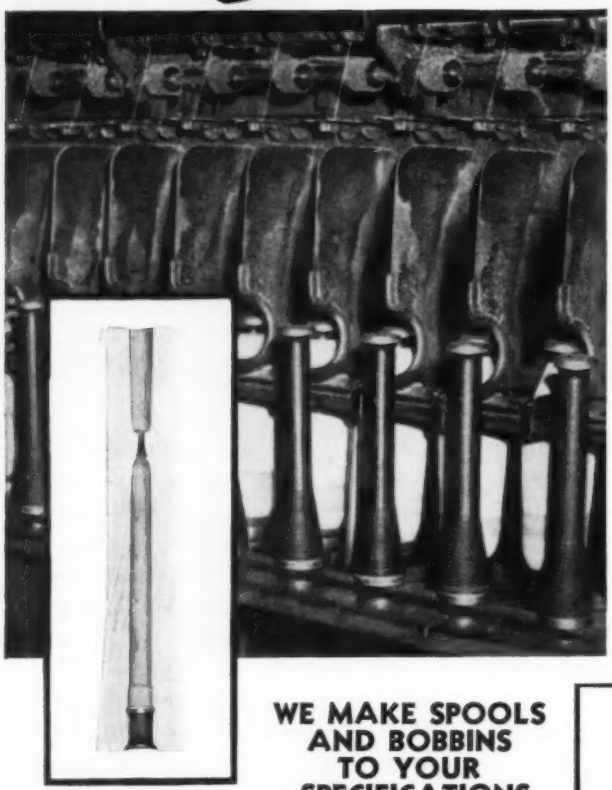
VERMONT SPOOL AND BOBBIN CO.'S

LITTLE BRASS BUSHINGS

THAT

SAVE YOU BIG MONEY

UNIQUELY CRIMPED BUILT-IN BUSHINGS PREVENT DRAG AND PULL . . . EVEN AT HIGH SPEEDS!



Cross section view showing machining details and bushings.

The Vermont Spool and Bobbin Company offers you a bobbin with extra value at a low competitive price! Crimped, built-in brass bushings keep bobbins free-running despite high speeds. Bobbins are given a seven-day baked enamel cure which seals moisture out, and, as an extra precaution, the cores are reamed. This prevents the bobbin from grabbing the spindle, should slight swelling occur.

Start saving with Vermont spools and bobbins. Contact your nearest Vermont Spool and Bobbin Company representative or write us today!

WE MAKE SPOOLS AND BOBBINS TO YOUR SPECIFICATIONS

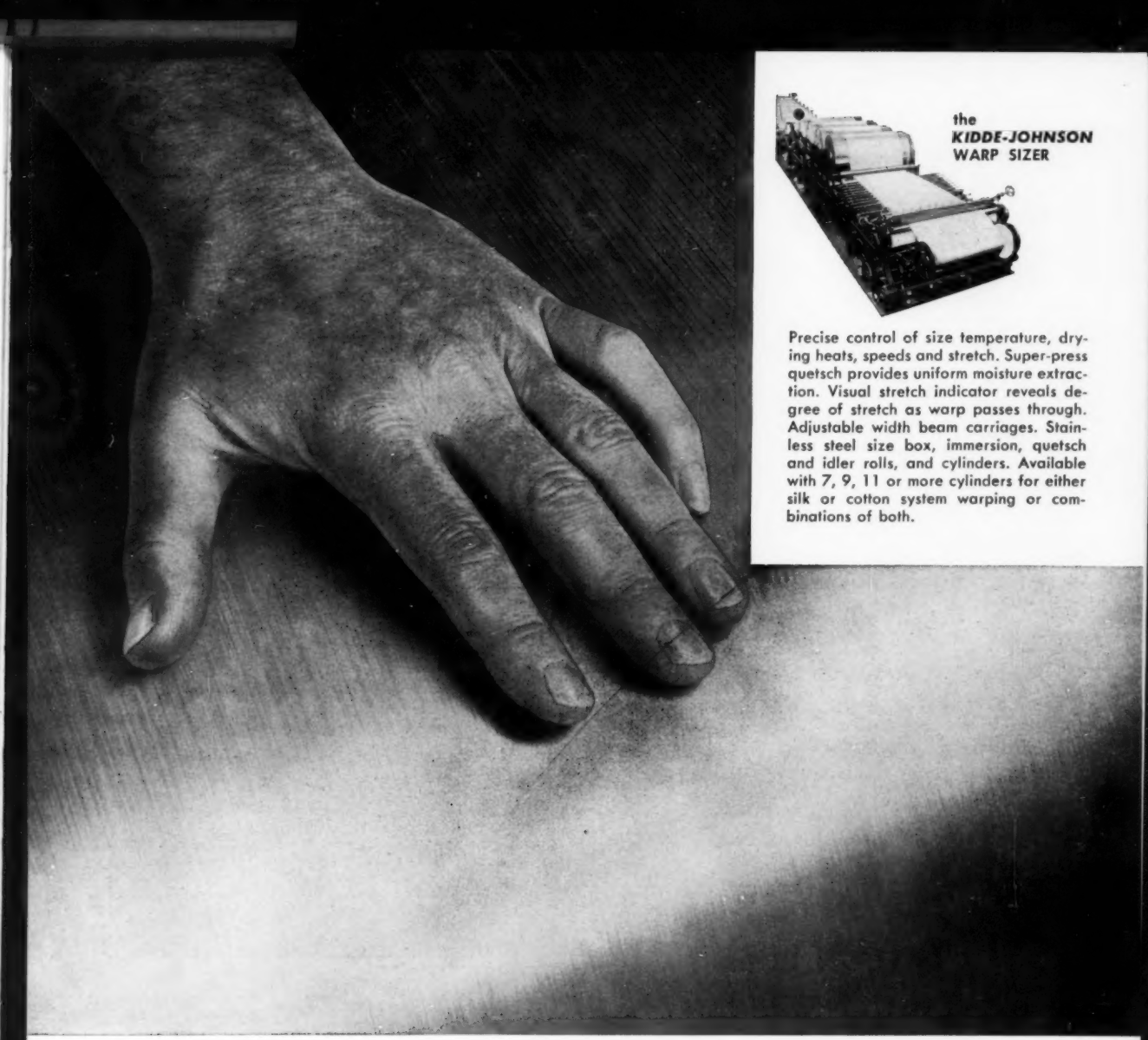
FIVE FEATURES YOU WANT

- LONGER LIFE
- TRUE, FREE-RUNNING
- BRASS BUSHINGS
- SKILLED WORKMANSHIP
- COMPETITIVE PRICE

Represented in the East by Atkinson, Haserick & Co., Boston 6, Mass., and Watson & Desmond, P.O. Box 1954, Charlotte, N. C.

Vermont SPOOL AND BOBBIN CO.

234 SO. CHAMPLAIN ST. — BURLINGTON, VERMONT — *SUPERIOR SPOOLS AND BOBBINS SINCE 1906*



the
KIDDE-JOHNSON
WARP SIZER

Precise control of size temperature, drying heats, speeds and stretch. Super-press quetsch provides uniform moisture extraction. Visual stretch indicator reveals degree of stretch as warp passes through. Adjustable width beam carriages. Stainless steel size box, immersion, quetsch and idler rolls, and cylinders. Available with 7, 9, 11 or more cylinders for either silk or cotton system warping or combinations of both.

Do your slashers meet these 5 tests?

1. Do they give you warps on which the amount of size is even from one end to the other and uniformly dried so that there is no trace of streaks?

2. Do they give you visual, fingertip control of stretch so that you can get uniform stretch through the entire warp or a whole series of warps?

3. Do they give you hard, smooth loom beams that do not make trouble for the weave room nor reduce loom efficiency?

4. Do they perfectly size any fiber you want to put through them, cotton or synthetic, spun or filament?

5. Do they run without breakdowns, 24 hours a day, turning out a steady stream of all the warps your weaving department needs?

If they do . . . *then they must be KIDDE-Johnsons!* If not, write us today for complete details of this world-famous warp sizer.

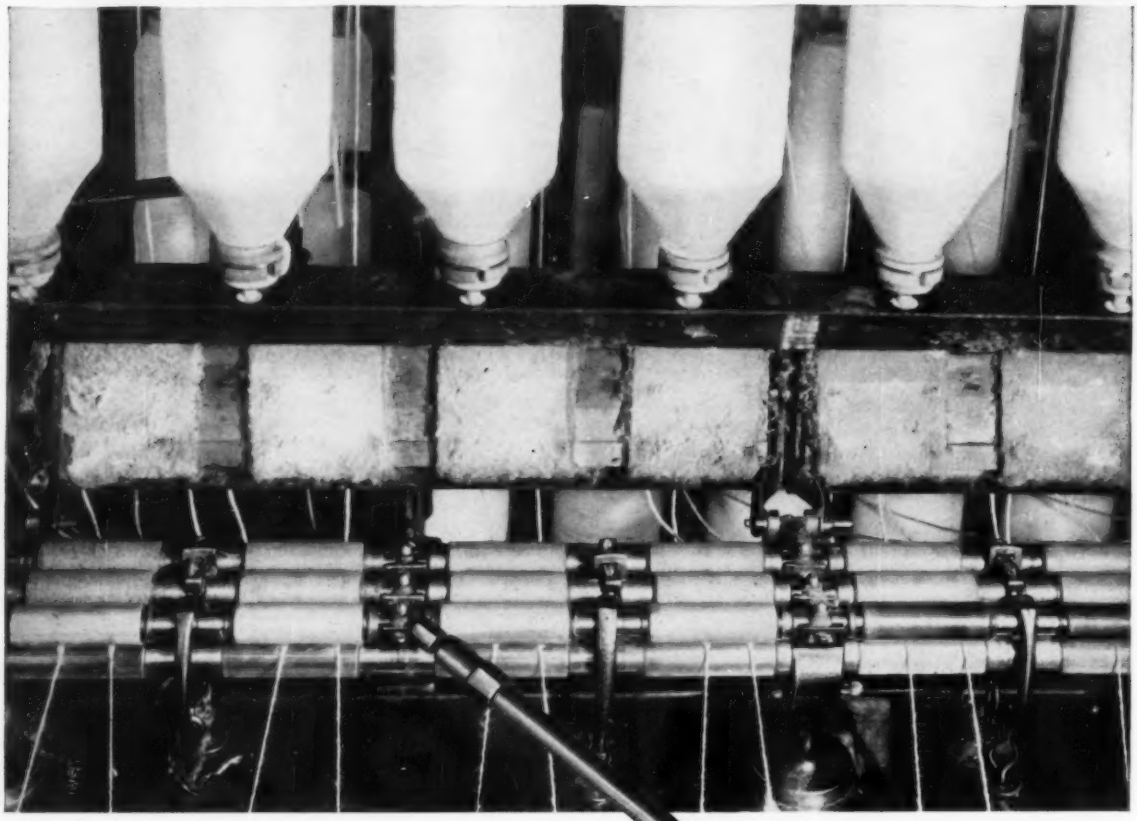
TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

Kidde

MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trade mark of Walter Kidde & Company, Inc., and its affiliated companies.

WON'T DRIP!

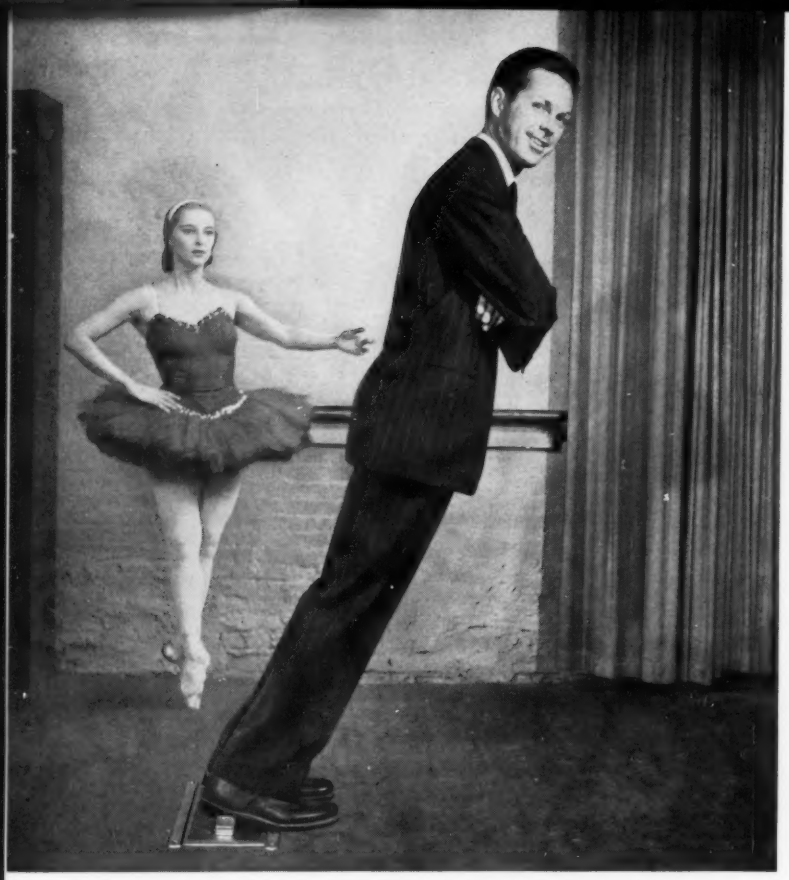


Switch now to Sinclair NO-DRIP and protect your yarn and roll coverings from spoilage. This fine lubricant *stays in place,* without creep or drip—permitting rolls to turn smoothly without drag, providing even draft . . . and *saving wear.*

Sinclair NO-DRIP Lubricants can *save you money* by assuring smooth operation, low maintenance . . . eliminating costly spoilage and repairs.

Call your Sinclair Representative today for further information or write for the new NO-DRIP pamphlet to Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y.
There's no obligation.

SINCLAIR NO-DRIP
TEXTILE LUBRICANTS

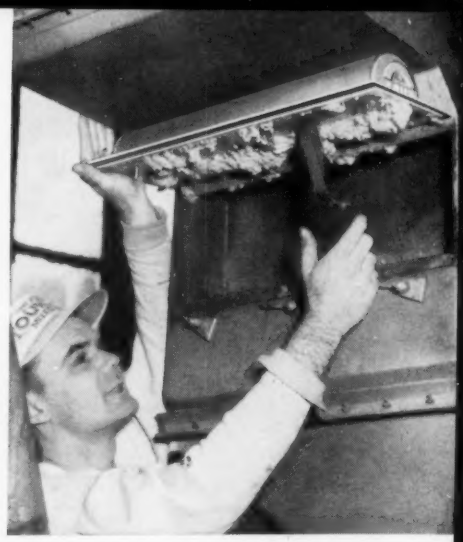


NOT NAILED TO THE FLOOR! Here's an idea for publicity men who used to create "gag shots" by nailing down shoes. Just use a piece of iron on the heel of the shoe and an Eriez Magnet set in the floor. To textile men, however, this demonstrates another idea — powerful magnetic action which can quickly be put to work pulling dangerous tramp iron out of processing lines in cotton, woolen, rayon and waste mills . . . tramp iron which causes fires, machinery damage and loss of production. *All Eriez Magnets are non-electric, self-contained. They operate without wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

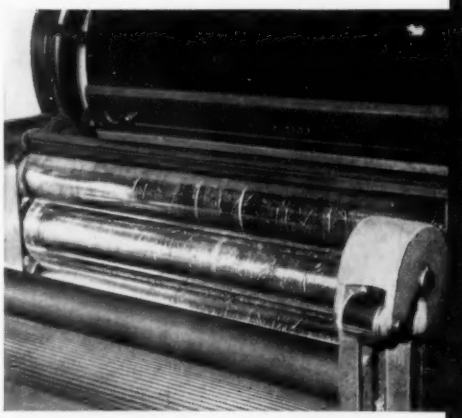
MAGNETIC IDEAS FROM ERIEZ

ERIEZ SPIKED APRON MAGNET PREVENTS FIRES. Designed especially for textile use, these magnets pull dangerous tramp iron from material moving in processing lines in cotton, waste and woolen mills. Reports show that equipment protected by these magnets extends card and garnett clothing life four and five times. More important is the added benefit of Eriez Permanent Non-electric Magnets as a means of fire prevention, by removal of tramp iron. Eriez Spiked Apron Magnets are so efficient they bear the Associated Factory Mutual Stamp of Approval. A recent survey showed that *9 out of 10* mills preferred to equip with Eriez Permanent Magnets. Want more information? . . . request Bulletin 563.

ERIEZ HI-POWR



NO METAL MEDDLES IN THIS COTTON LINE. Whitney Cotton Mills, Inc., Hamden, Conn., found that an inexpensive Eriez Magnetic Hump was the solution to dangerous fires and costly machine damage caused by tramp iron. The magnet, designed to remove nails, wire, pins, etc., from cotton tailings used for furniture backing, is located in the pneumatic line between a picker and condenser. Previously, tramp iron did extensive damage to garnetts and caused considerable downtime. Since installing the Magnetic Hump, production has increased, downtime has been eliminated, and an annual repair saving of approximately $3,000 for each of three garnetts has resulted.



THE WOEFUL ROLE OF PICKER CALENDER ROLLS. When's the last time you checked your calender rolls? Did they look like those above . . . damaged by pieces of stray metal that left lasting impressions, and also damaged lickerin and card clothing? Chances are, your own equipment has also suffered because of spikes from aprons, ring travelers, nails, screws, bottle tops, etc. But now you can prevent machinery damage, reduce downtime, and eliminate poor card performance with an Eriez Permanent Non-electric Magnet. Why not invite an Eriez representative to look at your equipment? He'll be glad to survey your plant and recommend one of the many Eriez Magnets designed specifically for the textile industry.

Eriez' free booklet "Magnetic Ideas" can help you. Send for it without obligation. Address: Eriez Manufacturing Company, 72B Magnet Drive, Erie, Pa. Or, on your specific request Eriez' factory-trained field men backed by Eriez' laboratory and engineering know-how will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas".

PREVIEW

of the most powerful advertising and publicity program ever to back a single fiber label

Everyone along the line stands to benefit from this concentrated backing of the Avisco name and the Avisco Integrity Tag. Whether you're converter or retailer, finisher or wholesaler, designer or cutter, your use of a textile fiber of known quality standards and predictable sales appeal will smooth the peaks and valleys of production and sales.

The shift of emphasis of all American Viscose advertising and publicity to the Avisco name in mid-1955 has already made a deep impression upon consumers and has made itself felt among our friends in the trade. Throughout 1956 every ounce of our advertising effort will be exerted in this direction. The impression will grow and grow.

We invite you to grow with the name

AVISCO®

COLORFUL MAGAZINE ADVERTISING on all product groups in **Life, The Saturday Evening Post, Good Housekeeping, McCall's, Better Homes & Gardens, New York Times Magazine, Fortune, Business Week, House Beautiful, House & Garden, Living for Young Homemakers, Vogue** and **Harper's Bazaar.** Over 30 million homes!

NATIONWIDE TV MESSAGES on Arlene Francis' "Home Show" throughout the year. Multiple messages during each peak selling week. Over a million viewers for each message!

TRADE ADVERTISING in important magazines and papers.

MERCHANDISING SUPPORT with versatile display pieces and promotion ideas.

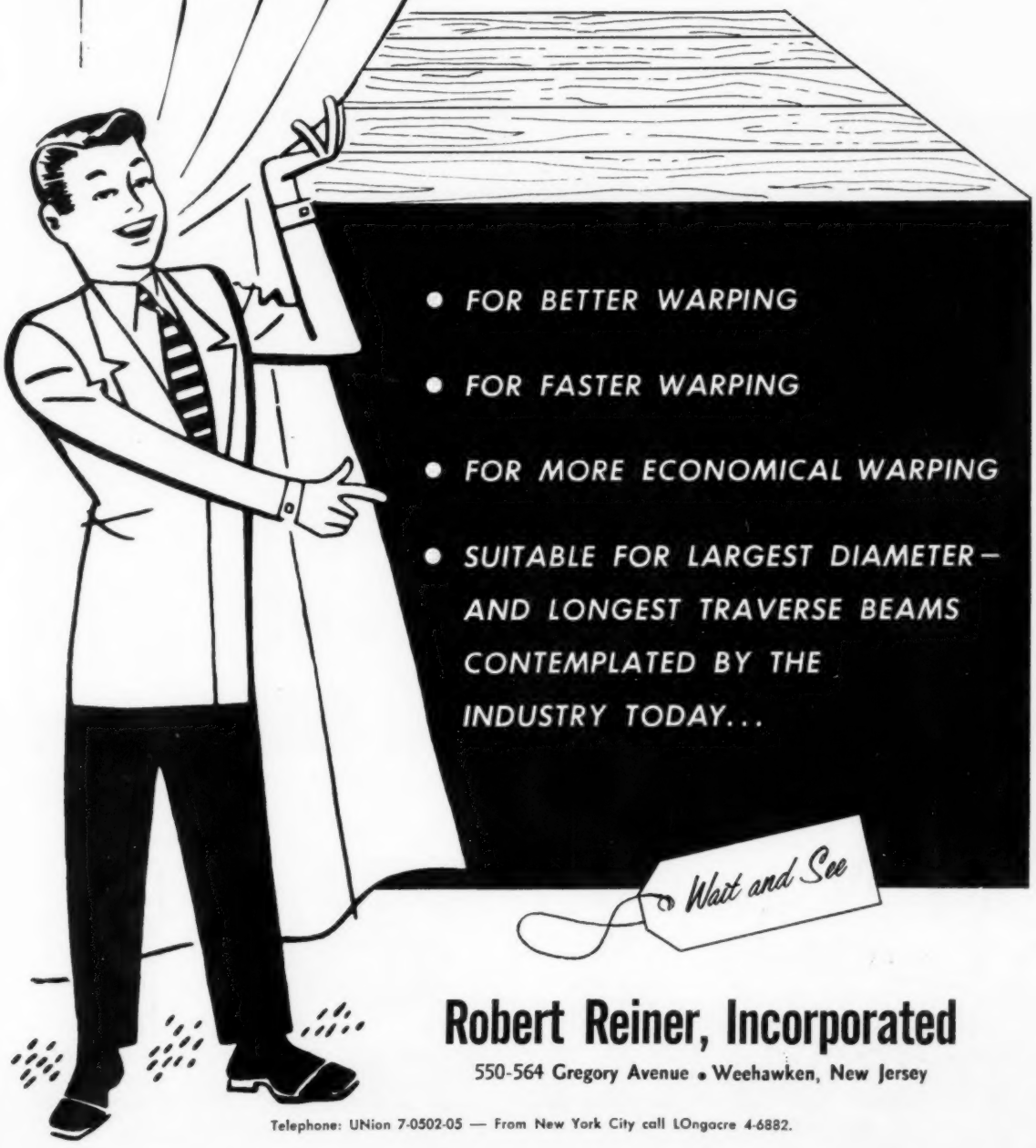
PRODUCT PUBLICITY for home furnishings and apparel.

MORE POWER than ever behind the Avisco Integrity Tag, silent salesman behind your qualified products.

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y. LA 4-7200

WATCH FOR ANNOUNCEMENT OF A *New*

REINER DEVELOPMENT



- *FOR BETTER WARPING*
- *FOR FASTER WARPING*
- *FOR MORE ECONOMICAL WARPING*
- *SUITABLE FOR LARGEST DIAMETER— AND LONGEST TRAVERSE BEAMS CONTEMPLATED BY THE INDUSTRY TODAY...*

Wait and See

Robert Reiner, Incorporated

550-564 Gregory Avenue • Weehawken, New Jersey

Telephone: UNion 7-0502-05 — From New York City call LOngacre 4-6882.

PERFORMANCE VERIFIED / by acid test

Even before a Powell Corrosion Resistant Valve is made, it must pass the acid test. For quality control begins with the very materials which go into Powell Valves.

Constant laboratory control is one of the many ways we make certain that Powell Corrosion Resistant Valves will give dependable flow control. Another is the final step of manufacture: *every Powell Valve is subjected to an actual line test.*

To keep pace with the rapidly expanding chemical and process industries, Powell has designed many new types of Corrosion Resistant Valves. The variety of pure metals and special alloys in which they are available has grown to such an extent that today there is a Powell Corrosion Resistant Valve to control the flow of almost every known, corrosive fluid.

Consult your Powell Valve distributor. If none is near you, we'll be pleased to tell you about our COMPLETE *quality line* which has PERFORMANCE VERIFIED.

The Wm. Powell Company, Cincinnati 22, Ohio . . . 110th YEAR

PERFORMANCE PV VERIFIED

FIG. 1503 SS (Sectional)—150-Pound Alloy Steel Gate Valve.

FIG. 3065 SS (Sectional)—300-Pound Bolted Cap Alloy Steel Horizontal Lift Check Valve.

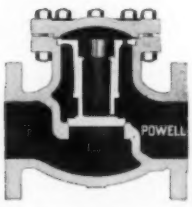
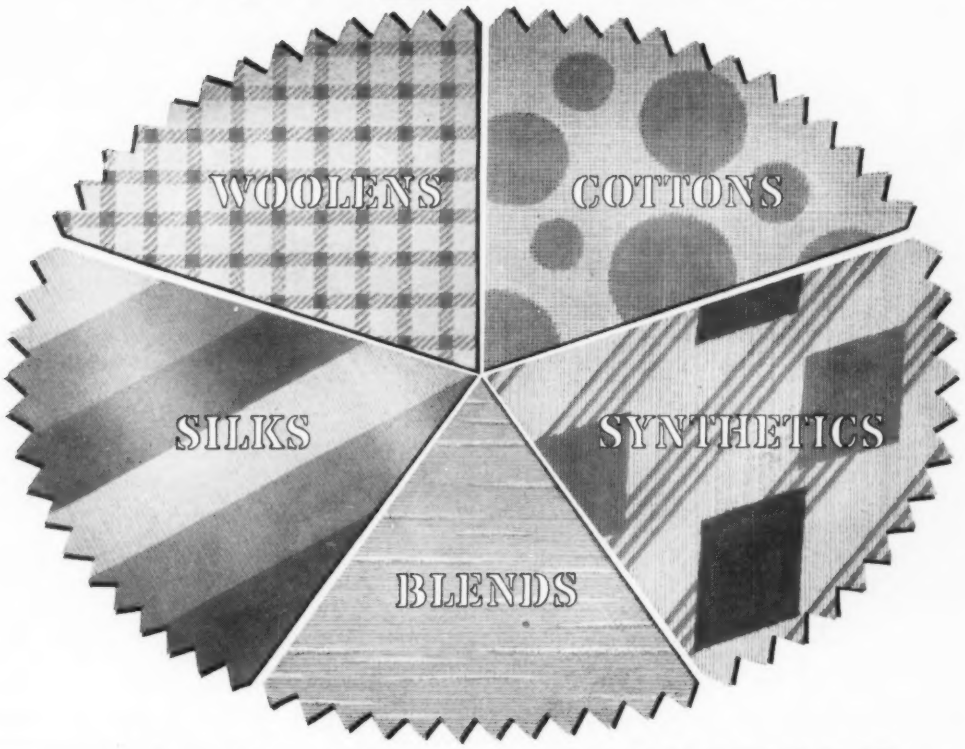


FIG. 1333 A (Sectional)—Integral Bonnet Angle Valve For Pressures of 1500 and 2500 W.S.P.

POWELL VALVES

BRONZE, IRON, STEEL AND CORROSION RESISTANT VALVES.

No Matter What The Material . . .



. . . When You Use Soap for PROCESSING—
You Can Depend On

COLGATE FORMULA 10

To Do The Job!

Because—it gives a better final result . . . 92% Sodium Oleate . . . titer on the fatty acids 10° Centigrade . . . easily dissolved . . . excellent detergent effect . . . mild fulling action when you want it. Easily rinsed at low temperatures with no bad odor left in the fabric.

Yes, you can depend on COLGATE FORMULA 10* for dozens of textile processing and finishing jobs.

For low-temperature washing *ordinarily requiring olive oil soaps,* we recommend COLGATE FORMULA 25.*

*Sold in eastern states only.

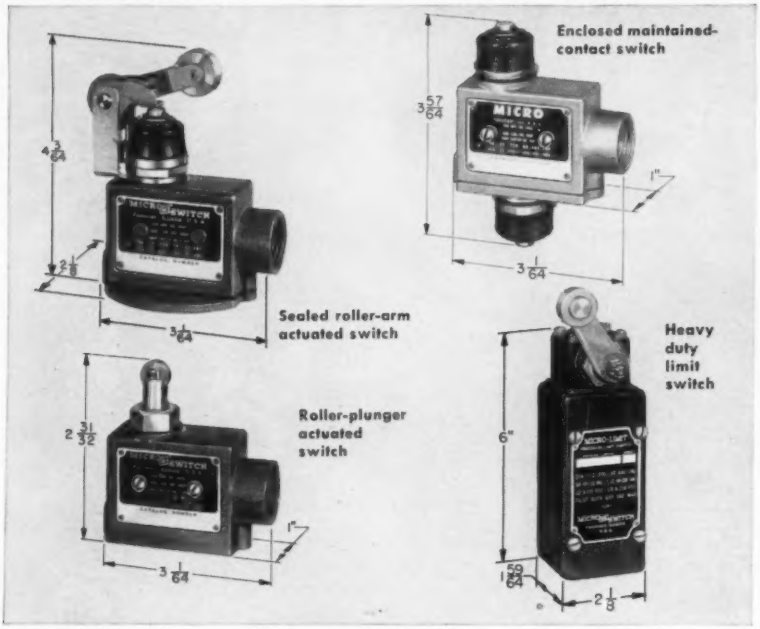
See your local C.P. representative for details, or write today to our Industrial Department.

FREE! New 1956 Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose. Get a copy from your C. P. representative, or write us at any one of the offices listed below.

COLGATE-PALMOLIVE COMPANY • Jersey City 2, N. J. • Atlanta 5, Ga. • Chicago 11, Ill.

MICRO *precision switches*

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN



These MICRO precision switches make textile operations safer—more productive

Whether you are a manufacturer of textile equipment or a plant operating man it will pay you to know ALL about MICRO precision switches.

The switches shown here were selected by plant engineers to make the operations shown at the right safer, more automatic and more productive. They are but a few of the many MICRO precision switch types now in use in hundreds of textile plants.

Sealed Roller-Arm Actuated Switch: For use with mechanically operated cams or slides. Elastomer boot protects the switching unit against effect of liquids, dust or other foreign substances. Roller arm is field adjustable through 360 degrees horizontally and 225 degrees vertically.

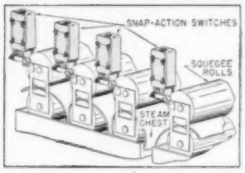
Enclosed Maintained-Contact Switch: For applications which require sustained contact after the actuating force has been released. A reset plunger enables the switch to be reset for succeeding operations. Elastomer boot prevents entrance of dust or moisture through the actuating mechanisms.

Roller-Plunger Actuated Switch: Designed for operation by cams or slides whose approach is in the same direction as the longitudinal axis of the switch. Rugged overtravel mechanism insures accurate repeat ability of the enclosed switching unit even when subjected to continual impact.

Heavy Duty Limit Switch: Ruggedly housed to withstand high humidity and linty atmospheres of textile operations. Roller arm actuator is field adjustable through 360 degrees at intervals of 0.4 degrees to any of 870 positive lock positions.

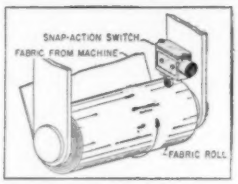
For complete information on switches for textile equipment write for the name of the distributor nearest you. MICRO SWITCH field engineering is available at your nearest branch office.

Saves Fabric and Production Loss on Bleach Range



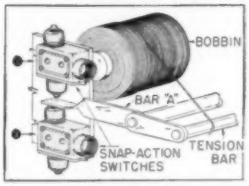
MICRO heavy duty limit switches are installed on bearing which raises—with roll. As cloth raises the switch stops the range, preventing fabric and production losses.

Controls Roll Size on Circular Knitting Machine



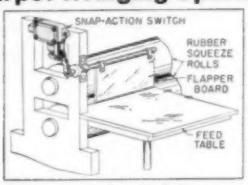
Roller-plunger actuated switch is operated by the roll when the fabric being made or processed reaches the desired roll size. Switch then stops the machine automatically.

Keeps Proper Yarn Tension for Knitting Operation



Two enclosed maintained-contact switches are used to prevent breakage of yarn due to either too high or too low tension. In either case Bar A contacts one switch or the other and shuts off the machine.

Protects Operator's Hand in Carpet Wringing Operation



Roller-arm actuated switch is operated by cam to shut off rolls in case baffleboard is pushed forward enough to catch operator's hand in the rolls. Carpet is positioned in the nip of the rolls by hand but machine will not operate until hands are withdrawn.

SEND FOR CATALOG 83
For information on a wide variety of enclosed switches.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • **FREEPORT, ILLINOIS**

write us this letter

YOUR LETTER HEAD
ANYTOWN, U.S.A.

date here

Van Vlaanderen Machine Co.
370 Straight Street
Paterson 3, New Jersey

Gentlemen:

Like many another dyehouse, ours still has a number of dyeing machines that are getting old. You may be right in claiming that new high-production machines could improve our competitive position and profit potential. Anyway, we are interested in having your opinion, without obligation of course.

We process _____ machines.
(list types of goods)

on _____
(Jigs, becks, etc.)

Yours very truly,
Your Signature
(Title here)

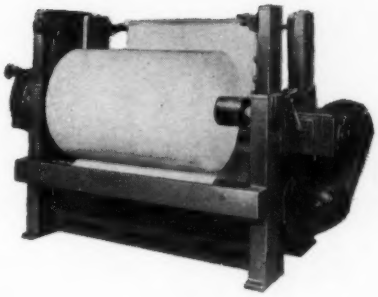
If you are concerned about your competitive position, why not write us a letter like the one above. We are sure we can help improve your profit potential, as we have for many others.

The textile industry has a busy future coming up. For years our population has increased at the rate of 2,000,000 a year and will continue to do so for years to come. Are you in a position to get your share of this ever increasing market?

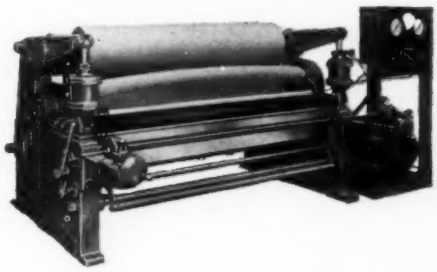
Why not give a critical look at each of your dyeing machines? Many companies are still using some equipment that has lost it's profit making possibilities. Van Vlaanderen can show you that replacement with modern equipment will give you better production, better quality work and better profits.

Whether you need a single machine or an entire plant you should have the benefit of our 53 years of know-how.

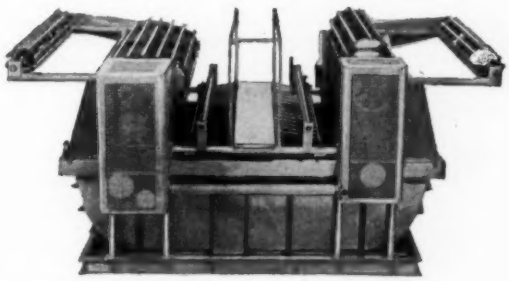
Our engineers invite your inquiry.



The Van Vlaanderen Dyemaster gives better results on all fabrics from sheers to heavy ducks. Constant cloth tension, from practically none for sheers to full for cotton ducks, makes the Dyemaster the most versatile American dyeing machine. Even dyeing results are achieved by near-constant cloth speed through a special differential transmission.



The Van Vlaanderen Ten Ton, 2 Roll Padder is a modern, versatile machine for finishing, resin impregnating and dyeing. It has a new slip-clutch take-up, operating through friction plate-clutches for sensitive tension control. Variable speed drive gives quiet, smooth operation. Pneumatic-pressure or micro-spring set optional. Operators' panel controls each cylinder separately to allow equalizing of nip pressure.



The Van Vlaanderen Duplex Dyeing Machine is a patented reel dyeing machine especially designed to do continuous strand-form piece dyeing of all qualities of goods from lingerie sheers to heavy dress fabrics. Has nearly double capacity with the same floor space compared with the old-fashioned single dye reel.

VAN VLAANDEREN

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, • Paterson 3, New Jersey

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina

WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

Celanese Fortisan*-36 Rayon presents outstanding opportunities to the weaving and throwing trades

Current success of FORTISAN-36, the new Celanese high tenacity, heavy-duty rayon from saponified acetate, offers an excellent opportunity for mills selling to the mechanical rubber goods, coated fabric and other industrial markets.

The extreme tensile strength, low elongation and exceptional dimensional stability of FORTISAN-36 is dramatically changing weight strength ratios now in use for standard constructions. For example, a standard 42 oz. cotton fabric popular in the rubber industry can be duplicated in a cloth weighing 21 oz. by using a FORTISAN-36 warp of equivalent tensile strength. Applications where performance of FORTISAN-36 appears outstanding are:

V-BELTS: Used as a reinforcing cord or as a cord fabric, the fiber's dimensional stability makes possible matching belts. Cords of FORTISAN-36 do not expand or contract under atmospheric changes or work as will belts using competitive fibers. Some of the singles, cords, and cables presently employed are 1600/5,6. 1600/2/3. 800/3. 800/4/3. 800/5/3.

HIGH PRESSURE FIRE HOSE: Used as filler cords in interior and exterior jackets it makes possible light, very strong, flexible, highly heat resistant hose which racks and handles easily. Cords now used are 1600/5,6,7,8,9,10.

CONVEYOR BELTS: FORTISAN-36 makes possible extremely strong yet thinner, lighter-weight belts with good troughing qualities that permit employment of longer distances between centers and higher tensions. Cords, cables and woven ducks are used here.

HIGH PRESSURE BRAIDED HOSE: The fiber's qualities permit lighter, safer, more flexible and pressure resistant hose. Now being produced are 1600/1,2,3. 800/1,2,3.

TARPAULINS: Elastomer coated FORTISAN-36 flat yarn woven fabrics have outstanding advantages in dimensional stability and strength during all processing and use. The final product has excellent tear and puncture resistance, and is resistant to ultra-violet degradation.

WEBBING: FORTISAN-36 low stretch tent, cargo tie-down and automotive safety belt webbings woven with a stuffer construction offer desirable properties in high strength, stretch resistance, and dimensional stability.

Other applications in which FORTISAN-36 is proving its merit are auto truck tires, plastic laminates, filters, paper reinforcement and oil hose.

For information on FORTISAN-36 write for Booklet #TD 20A. This revised booklet was printed during the past few weeks to incorporate additional data on FORTISAN-36 cords and fabrics. Celanese Corporation of America, Industrial Sales Department, Textile Division, Charlotte, North Carolina. Branch offices: 180 Madison Avenue, New York 16; Pilgrim Square Building, 9 Overwood Road at West Market Street, Akron 13, Ohio. Telephone TE 6-2392.

*Reg. U. S. Pat. Off.

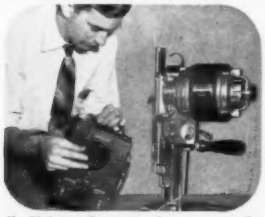
Celanese FIBERS FOR INDUSTRY

Baltimore Aircoil Company, Inc. — uses Strobotac to measure and control speeds of inaccessible fans and pumps in condensers for air conditioning and refrigeration.

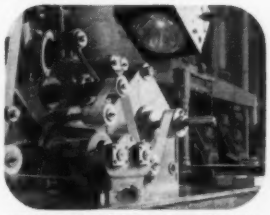
Redmond Company — production testing of small horse-power motors, with aid of Strobotac; each test station handles 250 motors per hour.

American Airlines System — Strobotac at repair shop checks operation of delicate vibrator units; mechanical tachometers proved useless in this application.

Remington Rand — Strobotac at final adjustment-and-inspection station permits visual slow-motion observation of electric shaver mechanical movements.



H. Maiman Company, Inc. — uses the Strobotac to great advantage in balancing knife blades, emery stones and other reciprocating components of cloth-cutting machinery and to keep vibrations and oscillations to a minimum.

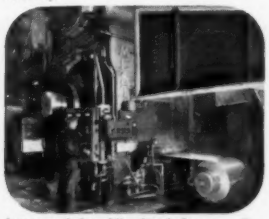


American Thread Company — Strobotac checks registration of four-color printing press operating at speed of 175 ft/min — permanent installation permits operator to observe accurately printed labels as they move by.

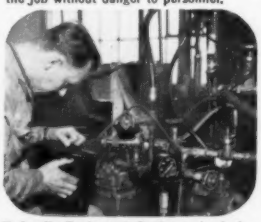
Stanley Electric Tools — Strobotac measures motor speed of electric hammers in relation to oscillations per minute of cutting head — Strobotac is only instrument capable of measuring this motion and does the job without danger to personnel.

Ohio Boxboard Company — Strobotac eliminates blistered cardboard; by examining the molten corrugated medium under stroboscopic light as it "fluffs" out, it is possible to make adjustments to insure uniform adhesion.

Duplan Corporation, Burnsville, North Carolina Division — Strobotac measures rpm of spinning bobbins to insure that tension, twist, size and hardness of packages are uniform. Faulty operation resulting from crooked bobbins, badly positioned or broken flyers, sluggish oil in spindle bolster, and other defects are readily revealed.



Jones and Laughlin Steel Corp. — the Strobotac helps guard against recurring imperfections in steel being rolled at 70 mph; the ratio of slip between top and bottom rolls of a five-stand, four-high Cold Reducing Mill is accurately checked without need for expensive shutdown.



Hydraulic Equipment Center — in design and installation of hydraulic pumps, the quantity of oil pumped per unit time must be carefully controlled; Strobotac provides a highly accurate and easily portable means of correlating the speed of the power unit with amount of oil pumped.

American Bosch Corp. — uses Strobotac for final inspection of diesel fuel-injection nozzles, not only to insure that fuel distribution in each cylinder is accurate, but that the spray has a precise pattern in the combustion chamber — every nozzle is tested and each spray pattern checked against a master-spray chart.

STROBOTAC®

works for Many Industries

Type 631-BL
STROBOTAC®
$150.00

For Complete Specifications and Prices On All G-R Stroboscopes Write For The STROBOTAC BULLETIN.

Can The Strobotac Help You? We believe it can, just as it is serving thousands of companies engaged in all forms of industrial operation throughout the world. How can we be so sure? Because there's justification for a Strobotac wherever there are moving parts, mechanisms and repetitive operations of any kind. That includes just about every plant.

The Strobotac has countless industrial uses because of its ability to measure speeds of cyclic moving mechanical parts and industrial operations with a *convenience*, *rapidity* and *accuracy* not obtainable with any other equipment. The Strobotac's rate-of-flash is changed by simply turning the main control knob until the cyclic movement appears to "stop". Rpm is then read directly from a calibrated scale to an accuracy of ±1% . . .

The Strobotac permits visual observation of rapidly moving objects as if they were in s-l-o-w motion. Misalignments, worn or broken parts, slipping, vibration, excessive torsion, and other mechanical defects impossible to see with the unaided eye are readily revealed under stroboscopic light.

The Strobotac can help you! It can make measurements which are impossible with mechanical tachometers or any other instrumentation.

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WAVE ANALYZERS
WAVE FILTERS

Setol Cleanser HAS WHAT IT TAKES
TO MACHINE-SCRUB OILY FLOORS—

Faster cleaning action!

Cuts operating time of the scrubbing machine

Because *Setol* is specially compounded for the greater speed of *combination-machine-scrubbing*, it must *and does* work faster than average alkaline cleansers. *Setol* saponifies *and emulsifies* grimy oil and grease *instantaneously*. The wetting agent in *Setol floats the oil* for fast, easy, *and thorough* removal by the vac of a *combination machine* or with a separate vac unit. And because *Setol* stays fast-acting longer—does not spend its strength quickly as do ordinary oil and grease solvents—less is required to clean a given area. Thus *Setol* saves on materials and, by speeding the cleaning process, cuts operating time of the scrubbing machine . . . reduces labor costs . . . and saves on brushes. Best of all, *Setol gets floors oil-free clean!* Also acts as a disinfectant (contains pine oil), and leaves a pleasant, clean aroma.

Finnell 213P Scrubber-Vac

Applies cleanser, scrubs, and picks up — in ONE operation!

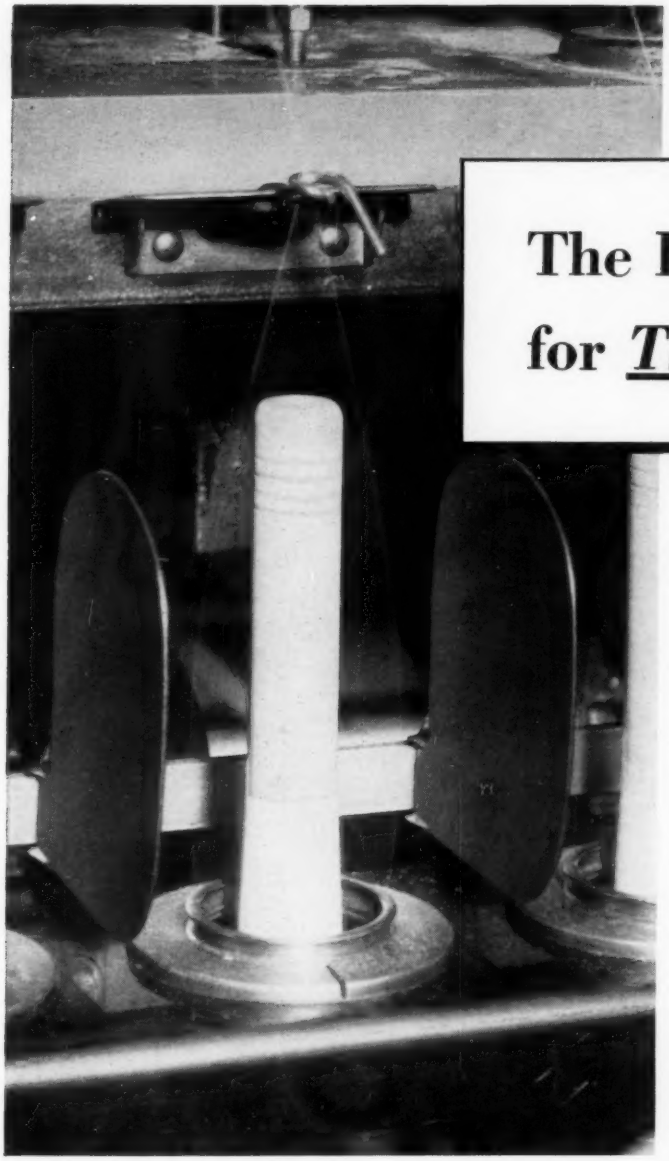
- **A constant, fast-acting cleanser for machine-scrubbing cement, wood, wood block, metal, stone, and terrazzo floors**
- **Consistent use on cement floors prevents cement dusting . . . provides a finish that helps seal out waste materials**

For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1302 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES



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Whenever, wherever you need Ring Travelers . . . and particularly for the fussy jobs . . . call National-Sterling. Our staff of experienced engineers is at your disposal always. A stock of over 18,000 different sizes, weights, and styles of Ring Travelers for twisting and spinning all natural, synthetic, and blended fibres is as near as your telephone. From our Pawtucket plant or newly enlarged Charlotte warehouse we can supply your needs promptly, or when necessary, design travelers for your special applications.

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NATIONAL
Sterling
RING TRAVELERS

F. L. CHASE, JR., *Pres. & Treas.* L. E. TAYLOR, *So. Mgr.*

FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES

NATIONAL RING TRAVELER CO., PAWT. R.I. U.S.A.

PHOTOGRAPH COURTESY OF CONCORDIA MFG. CO., INC.

Here are the reasons why

The SUPERLOFT Stretch Yarn Machine

is the most economical producer of top quality stretch yarn

A 216 spindle SUPERLOFT machine will produce over 400 pounds of stretch yarn a week.

Also, it does this in one single, high speed continuous operation, which assures cleaner, more uniform quality yarn.

This high quality performance is the result of outstanding Leesona-engineered features. For example:

- *Feed rolls are so arranged that one speed setting controls all. The same is true of take-up packages. Once the speeds are set to provide proper tension, that tension can never change — it remains constant from pirn to package and from spindle to spindle throughout the machine.*
- *Temperature of the heating element is controlled with precision accuracy along its entire length, and can be checked by thermometers located at regularintervals.*
- *The false twist spindles, which simultaneously twist and untwist the heated yarn, run at least 30,000 RPM — the equivalent of 60,000 turns per minute on conventional equipment.*
- *Take-up packages are staggered in two decks, enabling spindles to be set 2¾ inches apart in a single deck. This conserves floor space.*
- *The extra-solid UNIRAIL® type construction reduces vibration and assures long service life and low cost maintenance.*

You can buy the SUPERLOFT machine on a royalty-free license agreement, and take advantage of easy financing through either of the two Leesona Pay-As-You-Profit Plans.

Helanca*

High quality stretch yarns from the SUPERLOFT machine more than meet Helanca yarn standards, and, through an arrangement with Heberlein Patent Corporation, users of the machine may procure the right to label their yarns with the well-recognized Helanca name.

See your Universal representative, or write direct for more information.

*REGISTERED TRADE MARK, HEBERLEIN PATENT CORPORATION

23.5.31

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Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles

Winding and Twisting Machinery for Natural and Synthetic Yarns

Brilliant Colors for sleek new lines

For super-powered sales appeal in your new lines, let National help you add the plus value of dynamic color styling to your fabrics. Any color effects your stylists conceive, we can translate into economical dye formulas for production runs.

Right now we can serve you better than ever before . . . with newly-added colors, expanded application laboratory service, prompt local-office follow through and ample nearby stocks. No dyestuffs manufacturer can offer more or better service. That's why it always pays to *call National Aniline first.*

National Aniline Dyes

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION • 40 RECTOR ST. NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco Portland, Ore. Greensboro Charlotte Richmond Atlanta Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

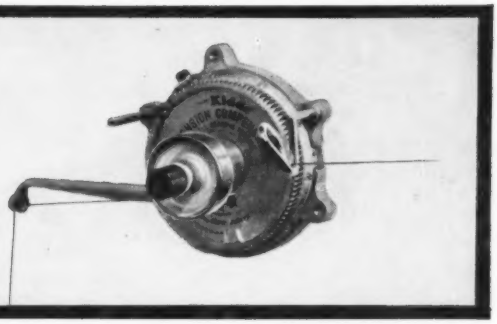
Hat — Amy Hats; Knitwear — Jane Irwill; Sports Car — Anthony Pompeo; Green Coat — Elfreda, Inc.

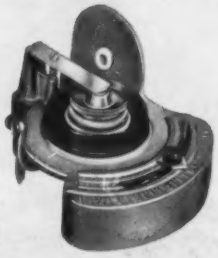
TENSION TROUBLES?

Here are 4 mill-tested solutions!

Kidde STANDARD COMPENSATORS

Available in three tension ranges (2 to 50 grams, 10 to 120 grams and 50 to 300 grams), Kidde Standard Compensators may be used in the circular knitting of synthetic yarns and rubber, rubber warping, silk quill winding, and most special applications.



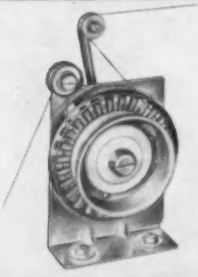


Kidde WARP COMPENSATORS

Creel mounted, the Kidde Warp Compensator is a tension device which is used in commercial beaming, the warp knitting trade, and the weaving industry. It is available in a tension range of from 4 to 22 grams.

Kidde DOUBLE DISC COMPENSATORS

Available in two tension ranges of from 10 to 120 grams and 50 to 300 grams, this Kidde tension device is used mainly in the quill winding of synthetic yarns.



Kidde CORD COMPENSATORS

Available in two ranges of 1 to 7 pounds and 5 to 25 pounds, the Kidde Cord Compensator gives accurate tension control at relatively high tension ranges. It is a highly specialized device which has been designed specifically to meet the needs of industrial textile manufacturers.

More than 500 of the country's leading textile mills now use Kidde Compensators to help them solve tension problems and turn out finer products at less cost.
For more information of how Kidde Compensators can help you, write Kidde today.

Kidde

The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc.
290 Main Street, Belleville 9, New Jersey

turn a wide variety of fibers...

into non-oriented Rando Webs...

into new profitable products

with RANDO-FEEDER and RANDO-WEBBER

The RANDO-WEBBER in conjunction with the RANDO-FEEDER produces a continuous, uniform non-woven web with random orientation of fibers and square, even selvage over a wide range of fibers and thicknesses of webs, without cross lapping or laminating.

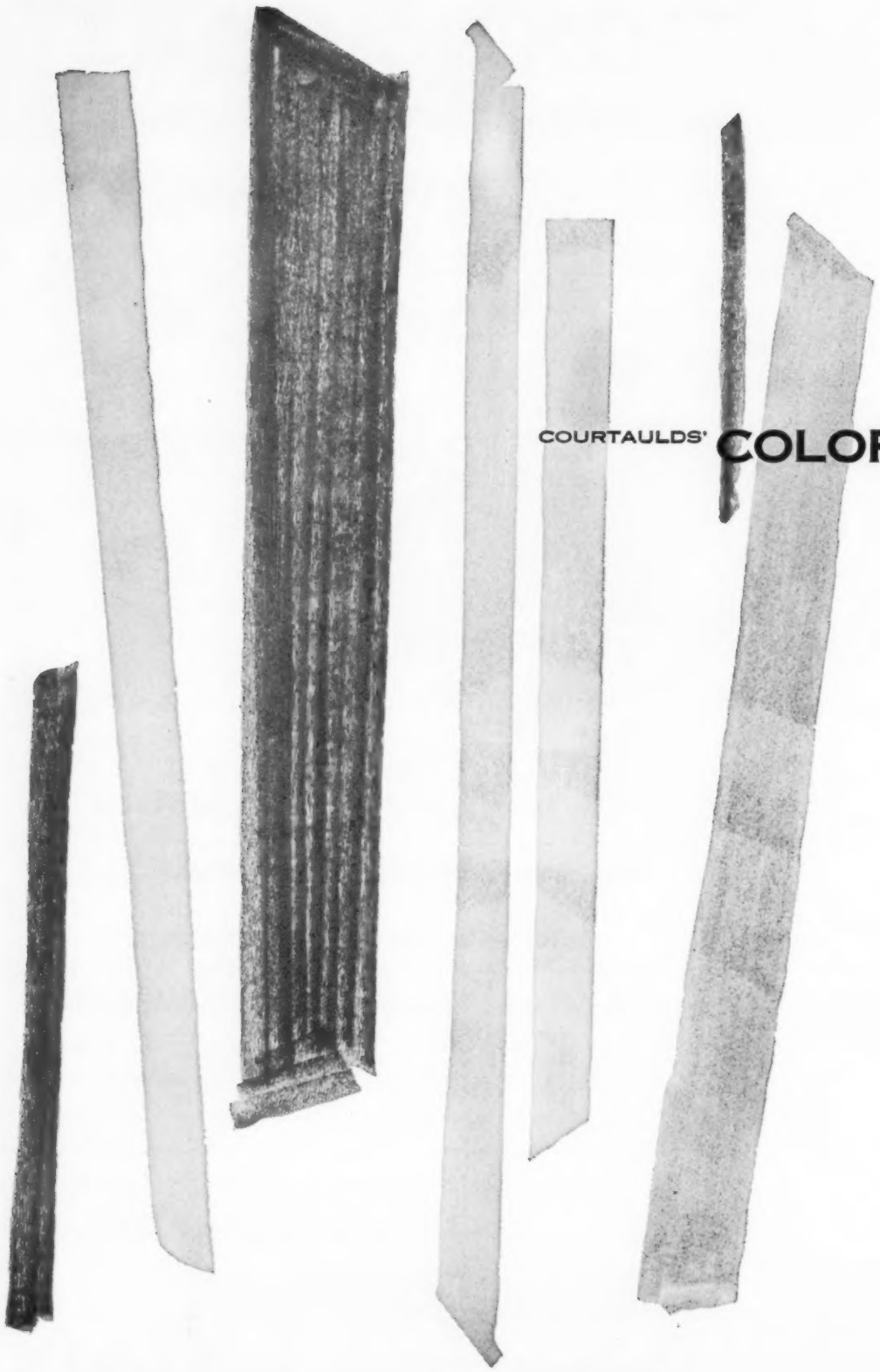
Inquiries are invited. Write for new Bulletin No. 104.

TEXTILE DIVISION

CURLATOR*

CORPORATION

EAST ROCHESTER, NEW YORK



COURTAULDS' **COLORAY**

8 Coloray colors resist fading— even after 500 test hours in direct tropical sunlight...

and there's no rating high enough to describe so much colorfastness!

BREAKS THE *colorfastness* BARRIER!

No other range of textile colors—anytime—anywhere—have been known to come close to Coloray's remarkable performance in blazing South Florida sunlight.

After 500 hours of exposure—still no effect on Coloray turquoise, peacock blue, terra cotta, tan, medium brown, silver grey, slate grey and black. Other "colorfast" colors claim *superior* light-fastness after only 80 hours of sun exposure without fading. And here is light-fastness over 6 times better!

That's typical of the phenomenal fastness of all 19 Coloray colors . . . a range that rockets safely into the 160, 320 and now 500-hour exposures. The sound reason for these spectacular results is: Coloray colors are not superficially dyed, but solution-dyed. Meaning the color is caged inside the fiber as the fiber forms! That's why Coloray colors have a deep-down beauty that adds dollars to the appearance of merchandise.

That's why you can count on Coloray colors to break the *sales* barrier in *your* business!

Results of Tests on Coloray Conducted by South Florida Test Service

Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Black	500	*	500	*
Slate Grey	500	*	500	*
Silver Grey	500	*	500	*
Tan	500	*	500	*
Peacock Blue	500	*	500	*
Turquoise	500	*	500	*
Terra Cotta	500	*	500	*
Medium Brown	500	*	500	*
Hunter Green	320	L8	320	L8
Dark Blue	320	L8	160	L7

Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Malachite Green	320	L8	180	L7
Indian Yellow	320	L8	160	L7
Red	320	L8	160	L7
Dark Brown	160	L7	160	L7
Sulphur Yellow	160	L7	160	L7
Medium Blue	160	L7	80	L6
Apple Green	160	L7	80	L6
Pink	160	L7	80	L6
Light Blue	80	L6	80	L6

*American Association of Textile Chemists and Colorists. No rating yet established to cover more than 320 hours.

Courtaulds' rayon fiber with Captive Color..."*can't escape!*"

For further information, write:

COURTAULDS (ALABAMA) INC. *First name in man-made fibers, first name in solution-dyeing*
600 FIFTH AVENUE, NEW YORK 20 • Greensboro, N. C. • Le Moyne Plant, Mobile, Ala.

Textile Notes on Corn Products

When operating temperatures and size stability are critical use...

NEW TEN-O-FILM® STARCHES

Fast cooking, easy desizing make these new corn starches a favorite for synthetics and combed cottons

Ten-O-Film has the stability and ease of removal necessary for spun synthetic yarns and blends, for combed cotton yarns and for worsteds.

Despite prolonged heating and circulating you can count on Ten-O-Film to maintain its viscosity at slashing temperatures. And when temperatures fall, it will resist gelation, even far below normal operating levels. If necessary, these new starches can be used with excellent results when humidity conditions in the weave room are lower than normal.

Ten-O-Film cooks quickly. You can have a completely stable size in 30 minutes after it reaches the boil. This product provides high film strength, flexibility and stability in a complete range of fluidities.

Ask the man from Corn Products. Ready to assist you in any way, he has at his disposal the most complete laboratory and technical facilities in the industry. The man from Corn Products can also provide engineering service for the installation of bulk-handling equipment. Write or phone for information, there is no obligation.

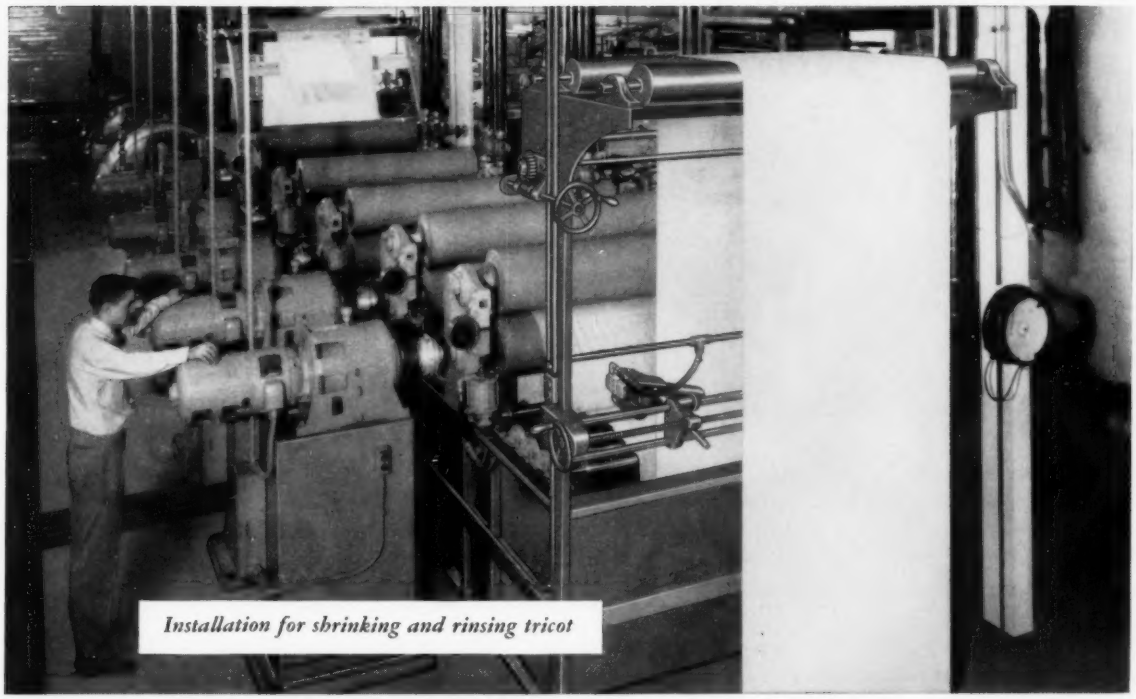
CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

Corn Products makes these famous starches for the textile industry—
Eagle • Foxhead • Globe • Hercules • Ten-O-Film • Globe Dextrines & Gums

WIESNER-RAPP

OPEN-WIDTH

Treating Machines



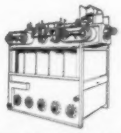
Installation for shrinking and rinsing tricot

The Wiesner-Rapp Open-Width Treating Machine is a sturdy, reliable, and versatile machine which has a wide usage throughout the entire textile industry in the treating of synthetic and natural fibres. It can be used for soaping, rinsing, washing, bleaching, shrinking, acidifying and neutralizing, or any combination of these. It is a completely flexible machine, finding application in many different mills and at many different steps in their processes.

The Wiesner-Rapp Engineering Department designs Treating Machines to fit a customer's specifications. They can be furnished with varying numbers and sizes of stainless steel tubs, each tub compartmented according to the type of treatment. Multiple immersion rolls are stainless steel. All squeeze rolls can be rubber covered, or one of each pair can be stainless steel covered. Pressure on the squeeze rolls is applied pneumatically and is indicated on dynamometers which are located on each side of the rolls. Squeeze roll diameters and face widths are designed according to requirements. Variable speed drives, with easily accessible controls, are furnished on all Wiesner-Rapp Open-Width Treating Machines. Tensioner for entrance end and plaiter rolls at exit also are available.

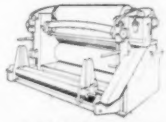
The Wiesner-Rapp Technical Staff will be happy to discuss treating machines with you in detail.

OTHER WIESNER-RAPP MACHINES

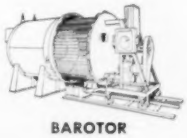


MULTI-STAGE WASHER

DYE BECK



3-ROLL PADDER



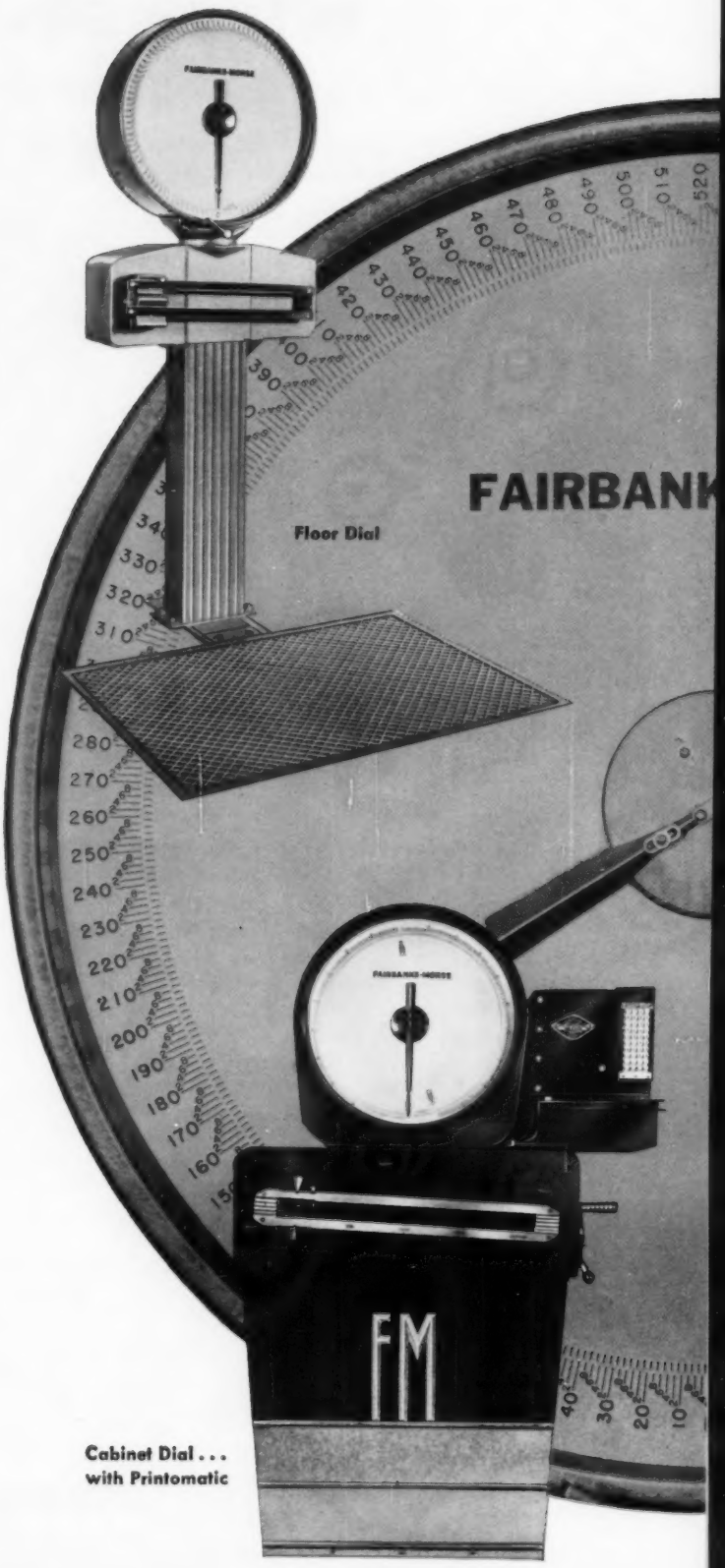
BAROTOR

THE WIESNER-RAPP CO., INC.

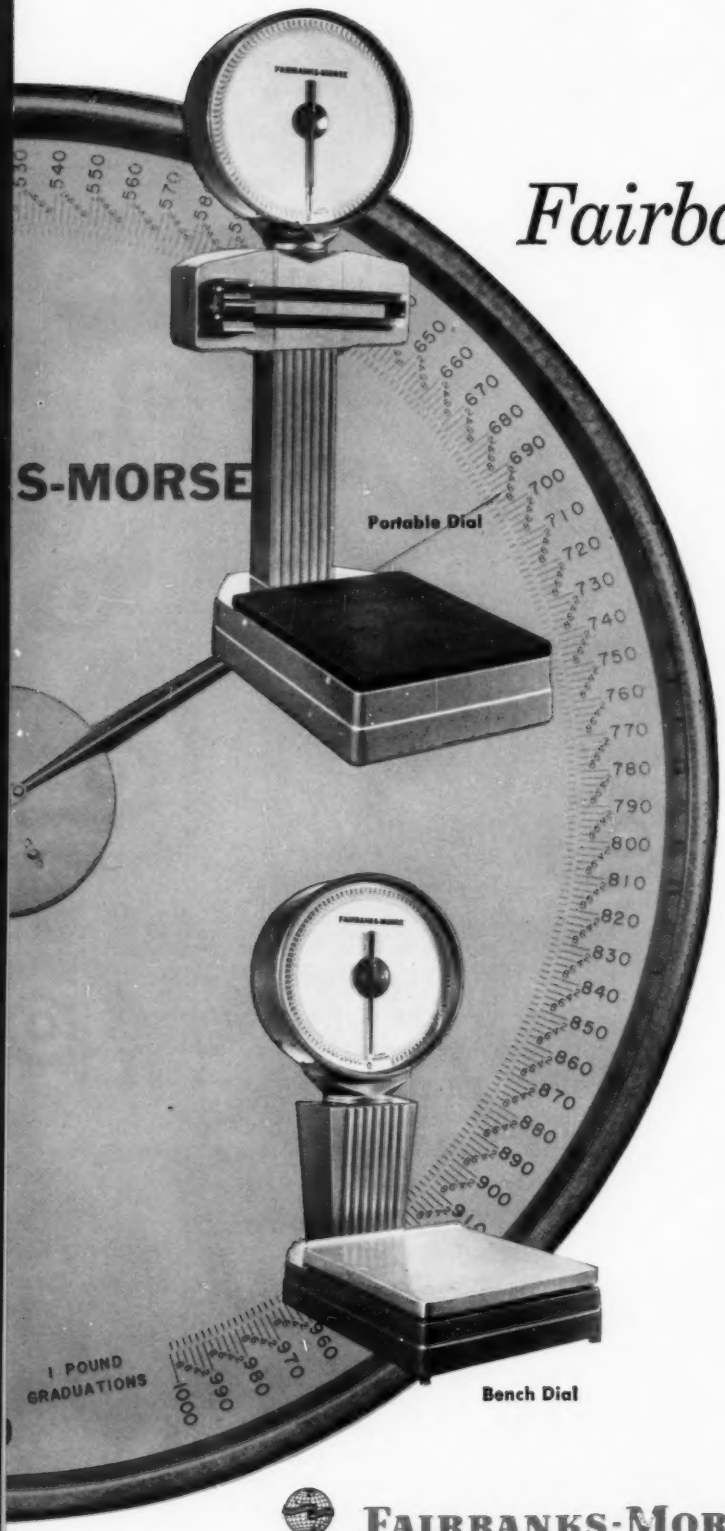
1618 SENECA ST., BUFFALO 10, N. Y.

Manufacturers of Wet-Finishing and Dyeing Machinery

announcing:



Cabinet Dial . . .
with Printomatic



Fairbanks-Morse floaxial dial scales

EASY TO READ...
EASY TO USE...
LASTINGLY ACCURATE

Everything you've ever wanted in a dial scale, you'll find in the completely new... completely different Fairbanks-Morse line!

Fairbanks-Morse engineers designed the new line with your needs in mind... based on exhaustive field reports. They're streamlined ...easy to read... easy to use... rugged to resist shock loads and rough handling... easy to service and maintain. And, above all, they have the new, patented *Floaxial* dial mechanism that assures enduring accuracy. There are no knife edges or pinpoint pivots to wear and affect long-life accurate weighing.

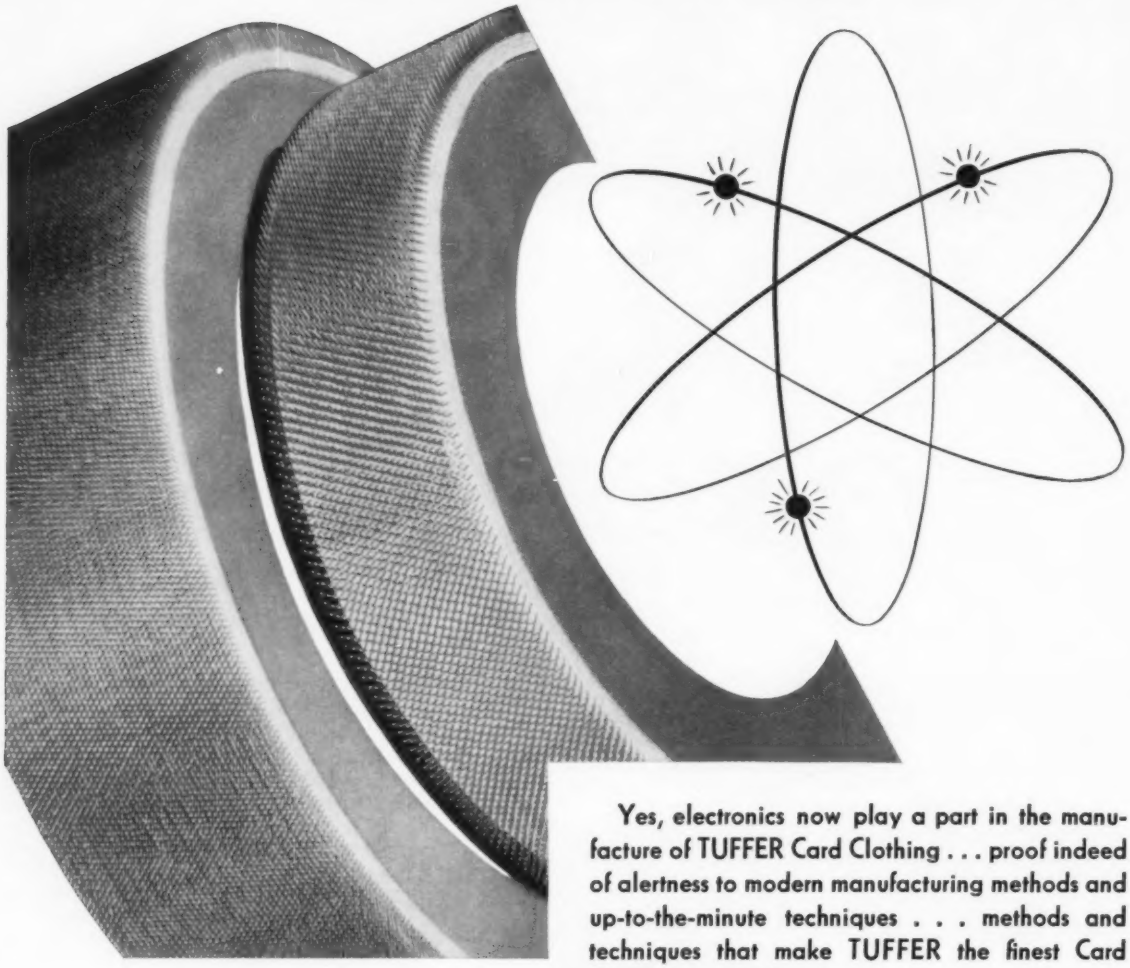
Dial chart and indicator are designed for easiest reading—ever! There's nothing to distract the eye... you get faster, easier weight indication... less chance for reading errors. Dial head swivels a full 360 degrees for easy reading at any angle!

For the complete, time-saving, cost-saving story on the new Fairbanks-Morse Dial line, see your Fairbanks-Morse Weighing Expert or write direct, on your letterhead, for new, colorful, descriptive bulletin on the type of Floaxial dial you want. Address Fairbanks, Morse & Co., Dept. TI-2, 600 S. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE
a name worth remembering when you want the best

SCALES • PUMPS • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • MOWERS • MAGNETOS

and now *Electronics* . . .



Yes, electronics now play a part in the manufacture of TUFFER Card Clothing . . . proof indeed of alertness to modern manufacturing methods and up-to-the-minute techniques . . . methods and techniques that make TUFFER the finest Card Clothing available.

Merely keeping abreast of the times, however, is not our only purpose—our constant intensive research is your assurance for even better Card Clothing for TOMORROW.

Howard Bros. forward-looking and progressive manufacturing policy, plus a vital 90 years of experience in the making of Card Clothing, is your guarantee that you are using the very best when you use TUFFER.

C-3

Manufacturers of Card Clothing for 90 years

1866-1956

Tuffer

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., and Gastonia, N. C.

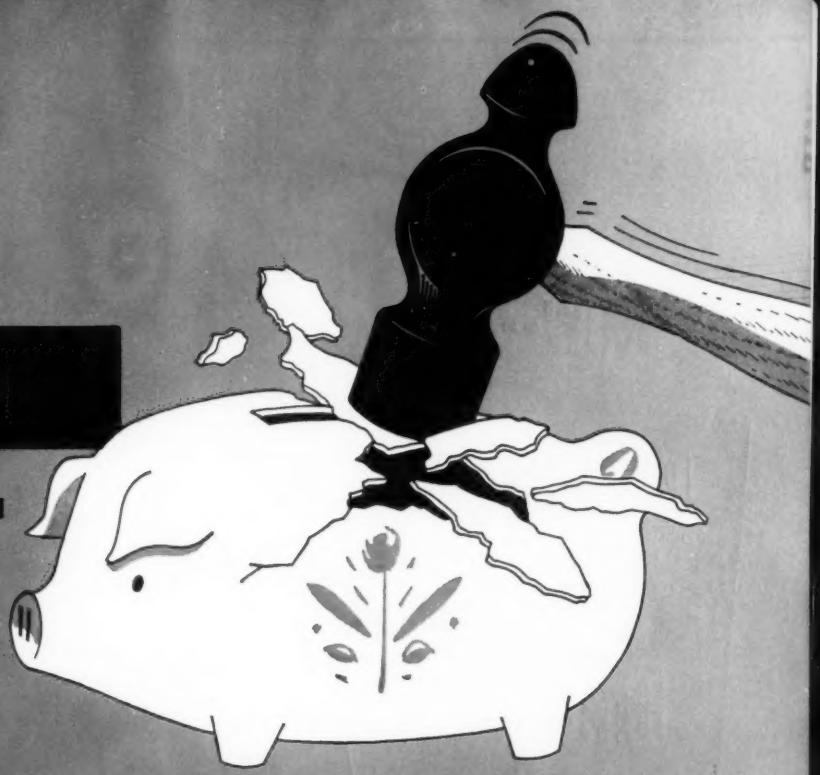
Direct Representation in Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing and Brushes • Top Flats re-covered and extra sets loaned at all Plants • Lickerins rewired at Southern Plants • Hand Stripping Cards

You naturally know that

CAST IRON

is almost as brittle as a "PIGGY BANK"!



But do you know that it would wipe out all your expected savings to pay for the cast iron replacement parts for your looms?

Perhaps you thought cast iron parts economical — just because the initial cost is low? The facts are to the contrary!

Actually, **HFL** *Improved* **LOOM PARTS** made of malleable iron, because of their exceptionally long life, will cost you less than cast iron replacement parts!

HFL Improved Loom Parts *are better because they are* **better engineered,** *as well as being made of better materials.*

IT'S FREE: Write for the easy-to-use HFL Catalog of Improved Loom Parts, and state whether you are weaving cotton, wool, or silk and synthetics.

HFL

IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

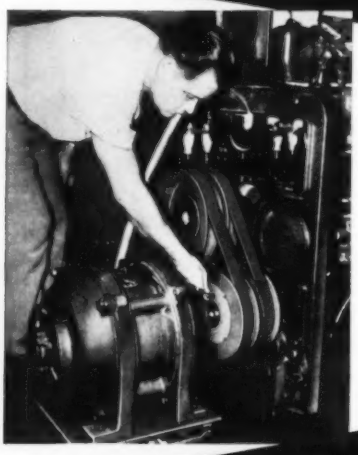
ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

Now--

Pre-set the Pitch Diameter



COMPONENTS OF
DODGE SPINNING FRAME DRIVE

- Variable Sheave with Automatic Pitch Diameter Gage
- Taper-Lock Companion Sheave
- Slide Motor Base
- Dodge Sealed-Life Belts

No more "cut and try" with the new Dodge Variable Sheave

An automatic Pitch Diameter Gage, graduated in tenths of an inch, is mounted on the outside flange of the new Dodge Variable Sheave. A spiral line on the hub intersects with the gage dial as the flanges are moved in or out. Pitch diameter is read directly on the dial.

Quickly . . . accurately . . . easily . . . you get the pitch diameter you want with a one point adjustment. The variable sheave locks as a unit when tightened on the shaft, utilizing the Taper-Lock principle.

Single or double strand drive

The Dodge Variable Sheave is available for both single or double strand drives — utilizing R-Section Sealed-Life V-Belts in the single or double strand and W-Section in the single strand only. The new, higher ratings of these belts, which contribute to the larger load carrying capacity of the Dodge Variable Speed Drive, open new opportunities for drive economy — both in initial cost and in maintenance. All components — the new sheave, companion sheaves, belts and motor base — are available from stock. Write for full details.

DODGE MANUFACTURING CORPORATION, 3500 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

Call the Transmissioneer, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new cost-saving methods. Look for his name under "Power Transmission Equipment" in your classified phone book.

CARTER TRAVELERS

ARE PRECISION MADE....

To insure spinning perfection (assured through constant testing)

Yes, Carter Travelers are precision made, and precision tested, by a modern metallurgical laboratory. This guarantees absolute uniformity of weight, temper and shape of Carter Travelers. Precision-matching to expensive rings means money-saving reductions of wear and cuts down time to an absolute minimum.

At every step of manufacturing, these precision travelers are constantly tested to assure maximum spindle speeds, smoother spinning, and more pounds per cone. To increase your production, and cut your costs, insist on Carter Travelers!

CARTER TRAVELER COMPANY

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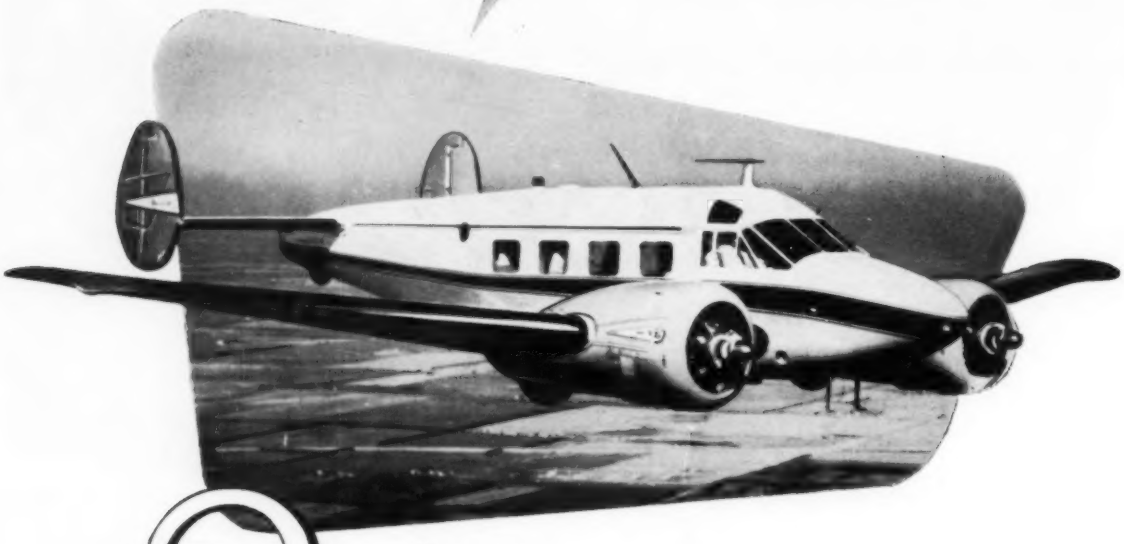
Executives travel in... COMFORT and PRIVACY



in Beechcraft

Company-owned planes
Fast and Dependable

DEMONSTRATORS AVAILABLE

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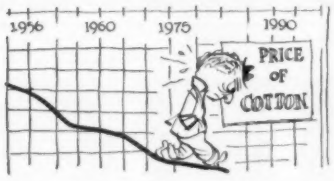
Beechcraft ....Airfleet of the Textile Industry

Textile Industries
for February 1956

News IN BRIEF

Lower Price—Solution to Cotton's Problems. The future of U. S. cotton depends on a gradually declining price geared to lower production costs and combined with aggressive research and promotion. This is the conclusion of a study of the price of cotton, published by the National Cotton

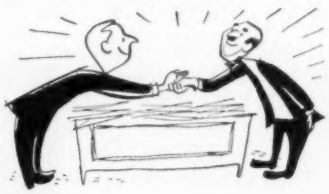


Council but which, however, does not reflect Council price policy. Effects would be felt over a period of years, and price cuts would have a small immediate effect. For example, the Council economists calculate that a 2½-cent price reduction would enable cotton to gain only 126,000 bales over rayon and other competitors in one to three years, and would offset an expected loss of 125,000 bales. A 5-cent reduction would bring a competitive gain of 315,000 bales and prevent losses of 445,000 bales; a 10-cent cut would bring gains of 741,000 bales and prevent losses of 699,000 bales. Against these figures, however, must be weighed the fact that rayon and other synthetics would undoubtedly meet at least part of the price cuts. What is needed, says the report, is a gradually declining price which will convince both customers and competitors that cotton's price is pointed downward in relation to other materials.

Mills Lose Walsh-Healey Decision. The entire United States or any part thereof may be deemed a "locality" for purposes of determining the minimum wages prevailing in a locality and to be paid on government contracts under the Walsh-Healey Act, according to a recent decision of the Court of Appeals for the District of Columbia in a suit by Covington Mills and about 150 other textile manufacturers against the Secretary of Labor. The mills had contended that the Secretary could not make a sweeping, industry-wide determination. The case may be appealed to the Supreme Court.

Employment Service for Quality Control Men. A job referral committee has been formed by the Textile Division, American Society for Quality Control, to help members of the Division and employers interested in locating qualified quality control men to get in touch with each other. Those interested should contact E. G. Field, 1101 Hurt Building, Atlanta 3, Ga.

Textile Men Arbitrate Successfully. A quarter century of successful settlement of textile disputes was celebrated recently by the General Arbitration Council of the Textile Industry. During the past year 117 cases, involving over



$800,000 were submitted by mills, selling houses, converters, wholesalers, garment manufacturers, and others. The Council is sponsored by 17 trade organizations representing the textile and allied industries.

Knitting Show at Leicester. The International Knitting Machinery and Accessories Exhibition will be held at Granby Halls, Leicester, England, October 17-27, 1956. The last of these exhibitions was held in 1950.

1956 Maid of Cotton. Patricia Anne Cowden of Raleigh, N. C., is the 1956 Maid of Cotton. She is 21 years old, 5 ft. 7½ in. tall, green-eyed, and has brown hair. First alternate is Revis Jordan, 19, of Lubbock, Texas.

Wool Production At Record. World production of raw wool for the 1955-56 season is estimated to total 4,475 million pounds, grease basis, 2 per cent above the previous season and the highest production on record. U. S. wool production in 1955 is estimated at 273 million pounds, grease basis, 1 per cent below 1954.

Dyeing "Super-Twist" Yarns. George W. Brooks is assignor to Belmont Throwing Co. of a patent on a method of dyeing "super-twist" yarns of nylon, Dacron, Orlon, etc., during the twisting process, so that the yarn retains its elasticity and curliness.

Japanese Increase Output. The Japanese cotton textile industry put more than 100,000 additional spindles into operation during last November, in an apparent effort to beat an enforced reduction plan. The number of cotton spindles in operation at the end of November was 8,111,000, after remaining steady at about 8,000,000 for the last two years. Japanese mills were authorized by the Ministry of International Trade and Industry to operate at a 12 per cent curtailment rate during January, instead of the 16 per cent rate

TRUST COMPANY OF GEORGIA

ATLANTA

Condensed Statement of Condition

December 31, 1955

ASSETS

Cash on Hand and Due From Other Banks		$ 48,238,904.04
United States Government Obligations	$30,078,921.91	
Municipal Bonds	12,979,486.88	
Other Securities	421,241.00	43,479,649.79
Loans and Discounts		90,286,483.26
Overdrafts		1,314.38
Banking Houses		2,735,357.29
Customers' Liability on Acceptances and Letters of Credit		488,926.92
Accounts Receivable and Accrued Interest		1,113,653.56
Prepaid Expenses and Other Assets		279,209.94
TOTAL		$186,623,499.18

LIABILITIES

Capital	$ 4,000,000.00	
Surplus	6,000,000.00	
Undivided Profits	4,470,740.23	$ 14,470,740.23
Reserve for Contingencies		1,243,810.36
Reserve for Expenses, Taxes, etc.		1,450,432.30
Acceptances and Letters of Credit		488,926.92
Accounts Payable, Unearned Interest, etc.		1,326,778.38
Deposits (*Including U. S. Treasury Tax and Loan Accounts)		167,642,810.99
TOTAL		$186,623,499.18

*U. S. Treasury Tax and Loan Accounts . $ 3,127,763.07

Assets Pledged to secure public funds (Including U. S. Treasury Tax and Loan Accounts), trust balances and other Liabilities as required by law . . . . . $ 22,599,934.17

MEMBER: FEDERAL DEPOSIT INSURANCE CORPORATION

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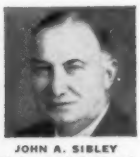

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Associates

S. R. YOUNG
President
Atlanta & West Point
Railroad Company

previously announced.

CMAG to Admit Associate Members. The Cotton Manufacturers Association of Georgia has announced a plan for making available associate memberships to individuals who are employed full time by textile machinery companies, supply houses, cotton shipping firms, commission houses and factors, banks, utility companies, engineering firms, and other businesses closely allied with the Georgia textile industry. Beginning with the 1956 convention, to be held at Nassau, Bahamas, April 25-27, attendance at CMAG conventions will be open only to active and associate members or their alternates.

Textile Standards. American Standards Association has approved specifications for institutional textiles as American standards. Included in the new standards are furnishings such as bedspreads and upholstery; utilities such as bath mats, towels, and shower curtains; and uniforms and work clothes. * * * "Standards for the Examination of Finished Goods," originally introduced by the Textile Distributors Institute, has been published jointly by the Institute and the National Federation of Textiles as an official system for grading fabrics of man-made fibers, and will be used by the Examination Bureau of the Federation.

Flammable Fabrics Rules Amended. The Federal Trade Commission has made several changes in Rule 7 of the Flammable Fabrics Act, which relax certain requirements. Critical burning time for test samples of plain surface fabrics weighing less than 2 oz per sq yd is now "3.5 seconds or more," instead of a range of 3.5 to 4 seconds. If four consecutive tests, at intervals not greater than three months, show flame spread to have been less than 4.5 seconds, no further tests on that class of fabric need be made. A newly added section states, "When, on the initial test of any raised surface textile fabric which has a surface composed of looped yarns, such fabric exhibits a burning time in excess of 12 seconds, such test may suffice for any such fabric having the same looped yarns and of the same fiber composition, construction and finish type. An example of the type of fabric referred to is 'terry cloth.'"

Cotton Picture. Looking at the current cotton picture, the Cotton Department of the National Bank of Commerce, Memphis, Tenn., makes the following observations: 1. CCC stock at the end of this

News in Brief

MERCHANDISING NOTES

Chatham Manufacturing Co. has announced the first full-size blankets made of 100 per cent Orlon; the blanket binding is nylon. The blanket is 72" by 90", and weighs 3¼ pounds.

Denim Council launched a promotion campaign aimed at the home handyman and handywoman trade with a series of fashion

shows presented at the recent Do-It-Yourself Show in Chicago. A similar series will be presented in other cities; next one scheduled is in New York, April 23-28.

Huntingdon Mills, Inc., has introduced the first children's sweaters of bulked Orlon, in brightly colored Jacquard patterns.

Interchemical Corp. is producing a three dimensional vinyl coated fabric, "Cohyde," for wall covering and upholstery.

James Lees and Sons Co. has completed arrangements with Allied Building Credits, Inc., for financing of carpet sales to retail customers on sales up to $2500. The credit program is in addition to the Dealer Bank Plan initiated by Lees in mid-1954.

A Texas hosiery mill is reported to be using red, white, and blue stripes of filament Dacron in full-fashioned stocking welts for decoration and added sales appeal. A North Carolina mill is considering putting small bands of colored yarn in or around ankles and welts of full-fashioned stockings to match school colors for college girls.

Supima Association reports that sheer cocktail and evening dresses of Pima S-1 cotton, by designer Adele Simpson, are now available in retail stores.

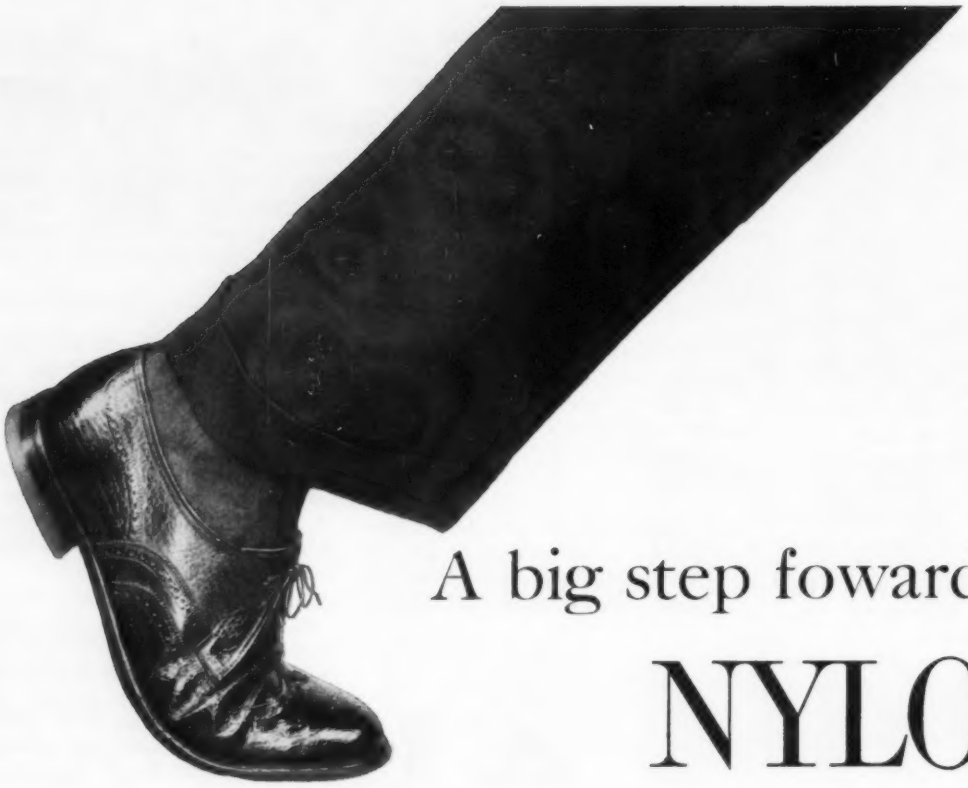
A. Schreter & Sons, Inc., persuaded the entire University of Maryland football team to wear its button-down necktie enroute to and from the Orange Bowl game in Miami. (The small end of the button-down tie passes through a

loop in the large end, and then buttons to the shirt.)

Wool Bureau advises that the hand knitting yarn industry must conduct a continuing program of education and fashion emphasis, rather than laying emphasis on budget-consciousness and economy, if it is to capitalize on the nation's vast youth market and the boom in do-it-yourself crafts.

Princeton Knitting Mills, Inc., recently introduced a synthetic

mink fur, knitted from a blend of 55 per cent dynel and 45 per cent Orlon.



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Nylon Heavy Yarns are of special interest in the production of automobile

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Tensile-Tough Nylon

Now Available: a completely new class of durable textile yarns for industrial fabrics and mechanical goods where toughness and high impact strength are essential requirements. Called Caprolan *tensile-tough* nylon, the heavy yarns are now being produced in 2,100, 2,500, 5,000 and 15,000 total denier. Eventually they will be produced in the complete range of 2,000 to 50,000 total denier according to your specifications.

Caprolan *tensile-tough* nylon heavy yarns have a *minimum* average standard tenacity of 6.5 grams per denier, and retain 90 per cent of their strength in the wet state. Initial put-ups are on ten-pound parallel packages and contain *nominal* twist. These packages create no twisting problems in the mill and eliminate the need to ply several ends of smaller deniers to obtain a higher total effect.

For information and technical assistance, write: Fiber Sales and Service,

NATIONAL ANILINE DIVISION

261 Madison Avenue — *New York 16, N. Y.*

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safety belts, hoses, heavy duck, conveyor fabrics, filter fabrics, industrial slings, webbing, tapes, cords, seine twine, belting and rope.

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Yardage Machine

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- Dual drive connected directly to main shaft.
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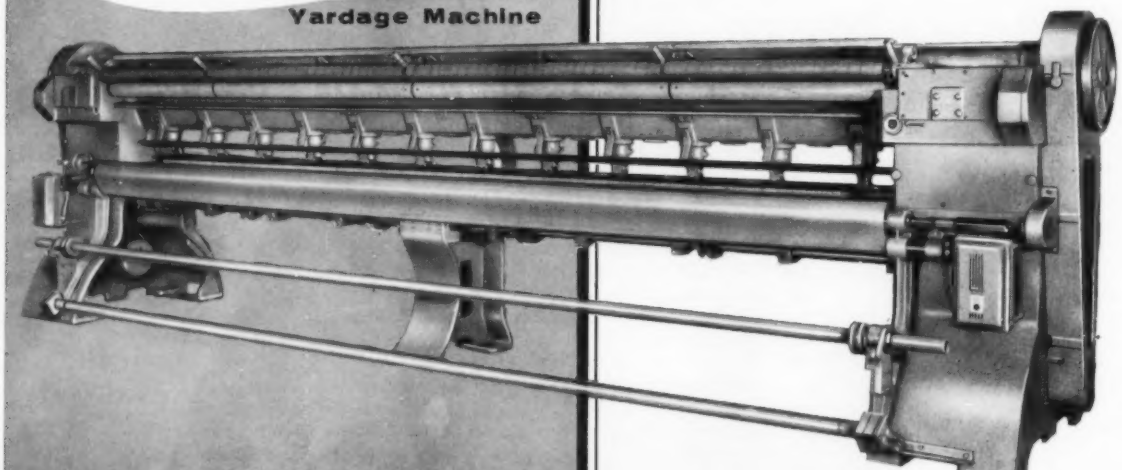

Other SUPER TUFTER yardage machines available in 40", 45", 54", 62", 76", 121", and 168" widths.

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season will be over 11 million bales, therefore some type of surplus disposal program will be inaugurated, probably including increased sales at competitive prices in the world market. 2. Increasing yields per acre make certain that acreage in 1957 and 1958 will be further reduced. 3. Support prices could be lowered 5 to 5½ cents per pound under existing law, but probably will be lowered about half that amount. 4. A determined effort will be made to change the provision of present law making Middling ⅞″ cotton the base quality; the average quality is now between Middling and Strict Low Middling, and slightly over 1″ in staple. Because of this, the price support of the 1954 crop averaged 94 per cent instead of 90 per cent of parity.

Industry for D. C.? Plans have been announced for development of a 400-acre industrial district in Greenbelt, Md., in suburban Washington, D. C., to be known as Beltway Park. Work has already be-

gun on the tract, which is being developed by a private syndicate, and plants which are eventually to be built are expected to include light and heavy manufacturing, distribution centers, and industrial research centers.

Charges Against Unions Reach New High. The National Labor Relations Board reports that charges of unfair labor practices against unions reached a new high in the third quarter of 1955, when 526 such charges were filed. About 40 per cent of the charges were filed by employees, 55 per cent by employers, and 5 per cent by other unions.

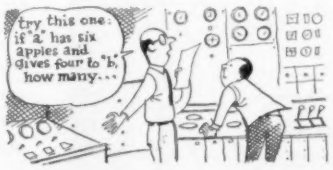
Penna. FEPC Law in Effect. A fair employment practices law recently put into effect in Pennsylvania makes it an unlawful practice for an employer to refuse to hire or in any way discriminate against a person because of age, race, color, creed, ancestry, or national origin. Penalty for violation is a fine of $100-500, or 30 days in jail, or both.

Open House at N. C. State. The School of Textiles at N. C. State College, Raleigh, will hold its annual Open House this year on

February 18. The affair is designed to acquaint prospective students, textile manufacturers, and the general public with the work carried out by the school.

New Postal Service. Letters or single pieces of first- or third-class mail may now be placed inside second- or fourth-class items, and letters or single pieces of first-class mail may be placed inside third-class packages. Postage for the enclosure, plus postage for the package itself, should be placed on the outside of the package; and a statement "first-class mail enclosed" or "third-class mail enclosed" should be typed, written, or stamped under the postage.

Computer Center Functioning. The $1 million Rich Electronic Computer Center at Georgia Tech, Atlanta, was formally dedicated recently. It is the first electronic computation laboratory located at



a southern institution of higher learning; and its facilities will be available for the solution of the computation problems of firms in the region, on a cost-reimbursement basis [see TEXTILE INDUSTRIES for June, 1954, p. 89].

Girdles Not Full-Fashioned. Improper use of the terms "full-fashioned," "fashioned," and "fully fashioned" in reference to girdles are prohibited in trade

News in Brief

practice rules for the corset, brassiere, and allied products industry which became effective the first of this year. Knitwear associations had protested an earlier wording of the rules, which they contended had incorrectly defined "full-fashioned" and similar terms, and would have permitted their use in a manner harmful to the knitwear industry. [See TEXTILE INDUSTRIES for October, 1955, pp. 87 and 89.]

"West Texas Ambassadors." Graduates of the Department of Textile Engineering at Texas Technological College, Lubbock, are referred to as "Ambassadors for West Texas" by R. K. Flege,

head of the department, who believes that as they become prominent in the industry they will speak for the establishment of branch mills on the plains of western Texas.

Surprise! Growers Vote Quotas. In a result not entirely unexpected, growers of both upland and extra long staple cotton have overwhelmingly approved marketing quotas for the 1956 crop, and therefore are eligible for "loans" on their cotton. Of the upland producers, 93.0 per cent voted "aye," while quotas on extra long staple were approved by 90.5 per cent of those casting their ballots.

Nylon Back Greys in Hungary. Hungary's textile printing plants are replacing cotton with perlon [nylon] for back greys, according to the Hungarian News and Information Service. The back greys are washed continuously (presumably in a blanket washer), and the longer life of the perlon is expected to result in an annual sav-

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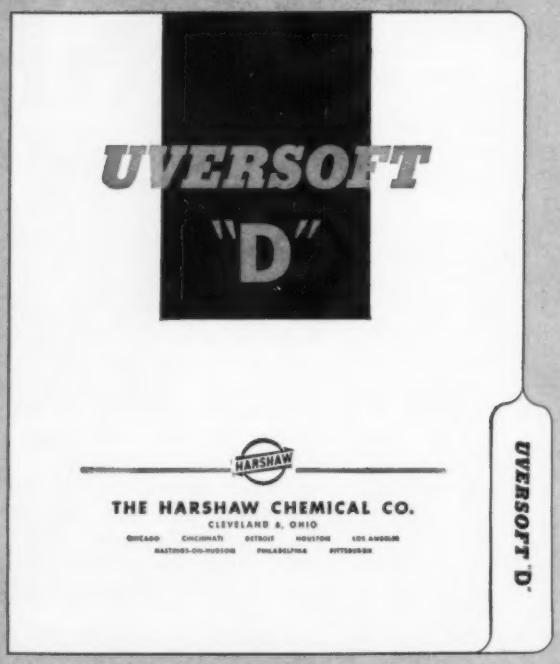

Imparts Soft Hand With Little Reduction In Moisture Absorbency

UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

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ing of $280,000. [The use of back greys in the United States has been materially reduced since the advent of nylon-face and other improved blankets. See TEXTILE INDUSTRIES for May, 1955, p. 89; and December, 1955, pp. 18 and 20.—Eds.]

New Method for Cleaning Cotton Carpet. A new method for in-place cleaning of wall-to-wall cotton carpeting was demonstrated for the first time at the Rug Cleaners' Convention in Cleveland last month. The method involves working suds through the carpet

pile with a specially designed brush, and then sucking them up through a vacuum nozzle at the outer edge of the brush. The method was developed by the Hoover Co., under contract to the Agricultural Research Service of the U. S. Department of Agriculture [see TEXTILE INDUSTRIES for July, 1954, pp. 59 and 61].

ILO To Study Mexican Industry. A three-man team from the International Labor Organization, an agency of the United Nations, is making a study of the Mexican cotton textile industry, at the re-

quest of the Mexican government, employers, and trade unions. The study is designed to assess the factors which could improve labor-management relations and raise standards in the industry.

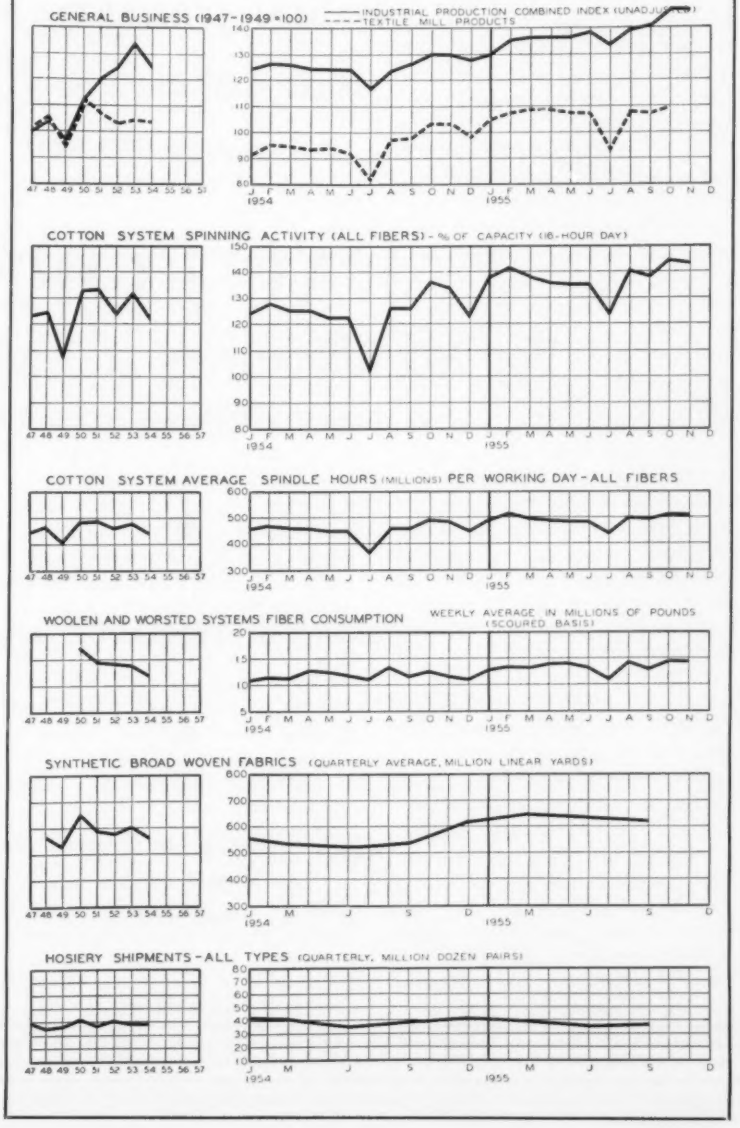
Color Association Changes Name. Members of The Textile Color Card Association of the United States, Inc., have voted to change the name of the organization to The Color Association of the United States, Inc., in keeping with the broadening membership in the association from industries other than textile.

Dates for ACMI Cotton Classes. Opening dates for the remainder of the 1956 series of courses in cotton fiber testing sponsored by the American Cotton Manufacturers Institute are March 19, August 6, and October 22. Courses are held in the Textile Building at Clemson College, Clemson, S. C., and each lasts eight weeks. Enrollment is limited to five persons in each class.

(Continued on page 242)

Textile Industry Activity Charts

Source of Information: Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.


GENERAL BUSINESS (1947-1949=100)
INDUSTRIAL PRODUCTION COMBINED INDEX (UNADJUSTED)
TEXTILE MILL PRODUCTS
COTTON SYSTEM SPINNING ACTIVITY (ALL FIBERS) - % OF CAPACITY (16-HOUR DAY)
COTTON SYSTEM AVERAGE SPINDLE HOURS (MILLIONS) PER WORKING DAY - ALL FIBERS
WOOLEN AND WORSTED SYSTEMS FIBER CONSUMPTION
WEEKLY AVERAGE IN MILLIONS OF POUNDS (SCOURED BASIS)
SYNTHETIC BROAD WOVEN FABRICS (QUARTERLY AVERAGE, MILLION LINEAR YARDS)
HOSIERY SHIPMENTS - ALL TYPES (QUARTERLY, MILLION DOZEN PAIRS)
1954
1955

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AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

A Gigantic "White Elephant"

ONE OF the most complex problems which comes to our mind in thinking about cotton's total problem is the huge government surplus which hangs over the head of the market like Damocles' Sword. The uncertainty as to what is going to be done about the surplus makes for long, sleepless nights for countless thousands of farmers, shippers, and manufacturers.

Naturally, we are more interested in the mill problem than in the problems of some other segments of the industry; and each of us who operates a mill, or who is a link in the management chain of command, is aware that this surplus makes an intelligent cotton policy almost impossible. When more than half of your costs is in raw materials, how can you purchase these raw materials for future delivery when their price is subject to the whim of almost every senator and congressman from California to Cape Hatteras?

The latest figures available to us at this writing indicate that as of November 26, 1955, the total government stocks of raw cotton came to 11,736,000 bales. This is up nearly 4 million bales from last year's figure of 8,092,000 bales. Generally speaking, domestic mills are able to buy their cotton in the open market and have little need of the government stocks. Foreign mills are unwilling to buy it because of its high price. Meanwhile. the surplus grows.

What got us into this mess? Well, the New Dealers would say that we did not have enough controls to control the situation and the conservatives would say that government meddling is what caused the fiasco.

For our part, we cannot see any reasoning that makes sense except that price controls have knocked cotton to its knees and it is now hanging on the ropes, perhaps never to return again to its former position of dominance.

We would very readily grant that back in the dark days of the 1930's, when banks were closing and gangs of unemployed men were riding freight trains from one hopeless location to another equally hopeless, there was need for quick and radical decisions. Whether or not we would have come out of these days of gloom by the force of our own momentum and without the alphabetical agencies is a question which will be debated as long as history is read. The fact remains, however, that Canada came out without such schemes, perhaps more quickly than we did, and this provides our closest geographical parallel.

Be that as it may, however, the cotton industry is looking down the barrels of its antagonists. We do not have to wait to see the whites of their eyes. The vineyard was planted in the 1930's and we are now reaping the Grapes of Wrath.

An earlier holocaust was prevented only by a world preparing for war around 1936 and 1937. The debacle was further delayed by the war years and the postwar years, but now at long last the day of reckoning has come.

With the price of American cotton supported at an artificially high level, foreign nations have found it increasingly profitable to plant the white lint and watch it grow, knowing all the while that policies of the American government would keep the world price at a safe and a profitable point. Meanwhile acreage controls have made it next to impossible for the small American cotton farmer to make a living and have raised a multitude of other problems for growers both large and small.

Manufacturers of rayon and other man-made fibers have viewed this situation with considerable merriment and no little approval. An American textile mill, up against a tough market in this country and still tougher competition abroad, is likely to look with a keen eye on its raw material costs. Taking waste and other contributing factors into consideration, rayon going into print cloths is about 8¢ a pound cheaper than cotton going into print cloths. The result of such arithmetic is inevitable and explains the major reason why so many mills are now spinning and weaving blends who never thought they would process anything but cotton. Incidentally, we have used print cloth merely by way of an example because obviously the price differential between cotton and rayon would vary according to the quality of the cotton, the type of fabric, etc.

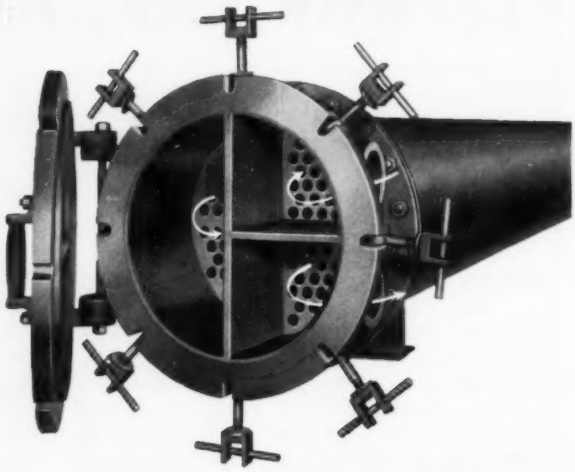
We never thought we would see the time come when people would be saying, "I must buy rayon because I can't afford cotton." This, however, is where our govern-

These 3 Finishing Plants...

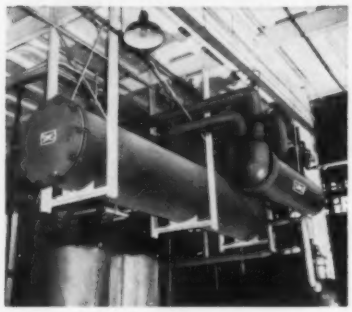
SAVE MONEY

with SIMS HEAT EXCHANGERS

If your process liquors leave your washing, dyeing or mercerizing departments at over 120°F.—better investigate Sims Heat Recovery. Keen textile engineers know that wasted B.T.U.'s represent boiler, fuel and labor dollars down the drain. Linty, contaminated hot waste liquors are no problem to Sims of Erie. Sims Textile Heat Exchangers are specially designed to meet your most difficult conditions. What Sims has done for others they can do for you. Write for copy of Bulletin TE-1W.

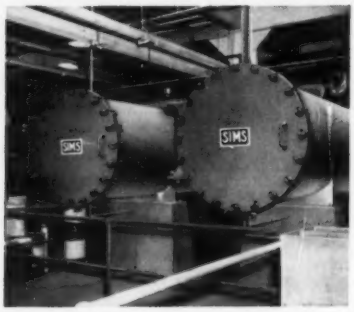


SIMS EXCHANGERS OPERATE ON HOT WASTE WATER



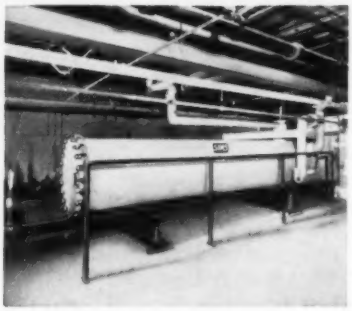
at Pepperell, Ala.

6 large Sims Textile type Heat Exchangers serve bleaching and dyeing ranges and mercerizer. Each waste water exchanger is connected to a Sims booster exchanger using steam to raise temperature of water. Typical of all, is the operation of one, on the dye range, fresh cold water introduced at 72°F. is raised to 136°F. The 6 Sims Exchangers were equivalent to an added 40,000 lbs./hr. boiler.



at Granitville, S.C.

2 very large Sims Textile type Heat Exchangers are fed from a hot waste water collecting tank. An average of 50,000 gallons per hour of incoming fresh water gains 42°F. passing through the exchangers. These 2 Sims Exchangers are floor mounted and serve dyeing ranges and mercerizer to convert waste hot water into usable hot water.



at Clevedale, S.C.

One of 3 Sims Textile type Heat Exchangers serves a mercerizing department. About 250,000 gals. per day of waste water at 175 to 180°F. are passed through this exchanger. Incoming fresh water at 77°F. gained 35°F. at a flow of 172 gallons per minute. Savings on a 24 hour basis amounted to 83,062,500 B.T.U.'s. The 2 other Sims Exchangers operate on bleaching ranges.

THE SIMS CO.

Erie, Pennsylvania

Manufacturers of Exhaust Gas Boilers • Storage Water Heaters • Heat Exchangers • Feed Water Heaters • Steam Separators • Quenching Oil Coolers • Oil Heaters • Caustic Soda Recovery Equipment • Commercial type Instantaneous Water Heaters.

OUR 70th YEAR

mental cotton policies have brought us.

Returning for a moment to the foreign situation, it has also been reported by the International Cotton Advisory Committee that within the next couple of years foreign cotton production will be balanced with foreign cotton consumption. This will put an end once and for all to the little dream world in which many of us have been living, and in which we thought and hoped that a Mimeograph machine turning out rules and regulations could control the basic laws of supply and demand. Unless we give them the money to pay us with, you will not see a pound of American cotton sold in foreign markets when they can get it somewhere else more cheaply.

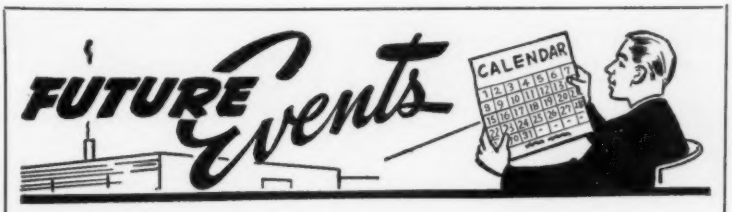
You Write the Ticket

Suppose you could write the law which would solve these complicated problems and you should be guaranteed its passage. What sort of solution would you come up with? Considered from that angle, we are almost certain to realize the many complexities which are involved here and whose solutions seem to defy common logic.

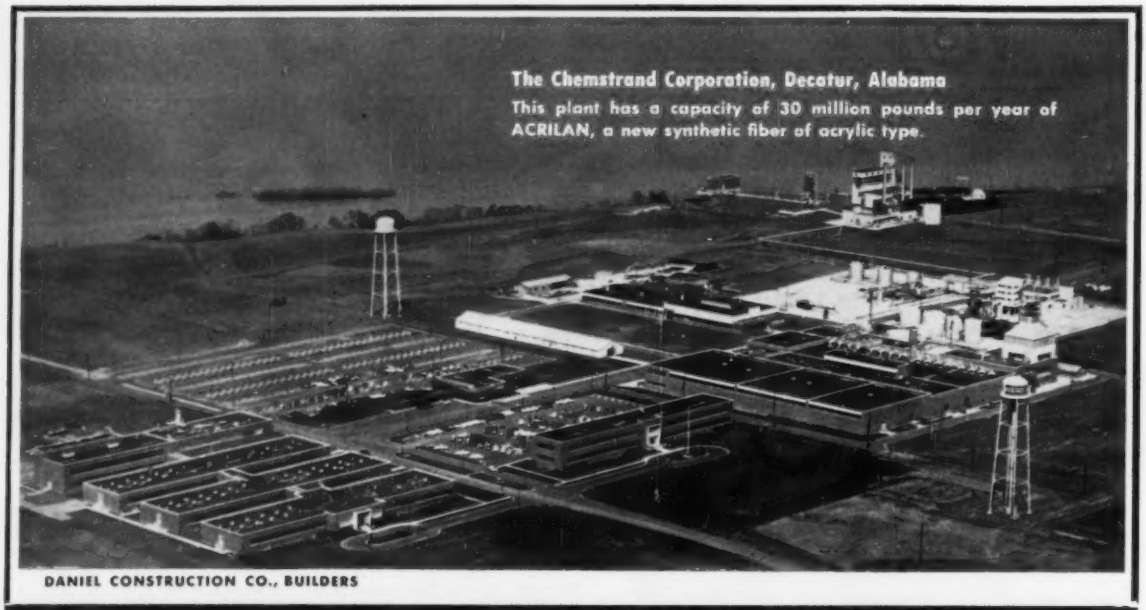
Certainly, for our part, we have no definite nor specific solution. Our guess, however, is that to get out of this mess we are all going to have to compromise some of our ideas and perhaps some of our ideals. Maybe the answer is going to be selling American surplus cotton on the world market at world prices, while at the same time placing in effect a strict system of quotas which would apply to all countries, all fibers, all fabrics, and all garments and other items made therefrom. When we do this we run the risk of endangering our diplomatic relations with a long list of other countries whose economies may be hurt when we "dump" some millions of bales of surplus. In the awful shadow of Soviet experimental explosions of the hydrogen bomb, can we risk this?

Of only two things are we sure: government supplies of cotton

(Continued on page 243)



Date		Event	Location
Feb.	6	Pacific Southwest Section AATCC	Gourmet Restaurant Beverly Hills, Calif.
	11	Mid-West Section AATCC	Bismark Hotel Chicago, Ill.
	13-15	Textile Div., American Society for Quality Control annual conference	Institute of Textile Technology Charlottesville, Va.
	15-17	7th Cotton Research Clinic	The Carolina Pinehurst, N. C.
	17	Northern New England Section AATCC	QM R & D Command Natick, Mass.
	18	Southeastern Section AATCC	A.P.I. School of Textiles Auburn, Ala.
	18	Open House at N. C. State School of Textiles	N. C. State College Raleigh, N. C.
Mar.	2	New York Section AATCC	Hotel Delmonico New York City
	3	Philadelphia Section AATCC	Adelphia Hotel Philadelphia, Pa.
	4-6	Southern Safety Conference and Exposition	Biltmore Hotel Atlanta, Ga.
	13-16	ASTM Committee D-13 on Textiles	The Warwick Hotel New York City
	16	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
	16	Hudson-Mohawk Section AATCC	Hotel Johnstown Johnstown, N. Y.
	22-23	Textile Research Institute annual meeting	Hotel Commodore New York City
	22-23	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
April	5-7	American Cotton Manufacturers Institute annual meeting	Hollywood Beach Hotel Hollywood Beach, Fla.
	5-6	Carolinas Section, American Society for Quality Control	Clemson House Clemson, S. C.
	11-13	Alabama Cotton Manufacturers Association annual meeting	Hotel Buena Vista Biloxi, Miss.
	18-19	National Knitted Outerwear Association annual convention	Waldorf-Astoria New York City
	19-21	Phi Psi Fraternity annual convention	A. P. I. Auburn, Ala.
	25-28	Cotton Manufacturers Association of Georgia annual convention	Emerald Beach Hotel Nassau, Bahamas Islands British West Indies
	27-28	Delta Kappa Phi Fraternity annual convention	Georgia Tech Atlanta, Ga.
May	2-3	The Fiber Society, Inc.	Clemson House Clemson, S. C.
	2-4	North Carolina Industrial Safety Conference	Hotel Charlotte Charlotte, N. C.
	4	The Underwear Institute annual convention	
	14-19	National Cotton Week, sponsored by National Cotton Council	
	31-June 2	Tufted Textile Manufacturers Association convention	The Fontainbleau Miami Beach, Fla.
June	5-7	Textile Seminar, sponsored by Textile Technical Federation of Canada	Queens University Kingston, Ontario
	14-16	National Association of Hosiery Manufacturers annual meeting; also Hosiery Industry Conference	Hotel Roanoke Roanoke, Va.
	21-23	Southern Textile Association annual convention	Mayview Manor Blowing Rock, N. C.
Sept.	6-7	The Fiber Society, Inc.	The Warwick Hotel New York City
	10-15	Perkin Centennial	Waldorf-Astoria New York City
	13-15	American Association of Textile Chemists and Colorists annual convention	Waldorf-Astoria New York City
	27-28	Combed Yarn Spinners Association convention	Cavalier Hotel Virginia Beach, Va.
Oct.	1-5	Southern Textile Exposition	Textile Hall Greenville, S. C.
	10-12	North Carolina Textile Manufacturers Association annual meeting	The Carolina Pinehurst, N. C.
	17-27	International Knitting Machinery & Accessories Exhibition	Granby Halls Leicester, England



The Chemstrand Corporation, Decatur, Alabama

This plant has a capacity of 30 million pounds per year of ACRILAN, a new synthetic fiber of acrylic type.

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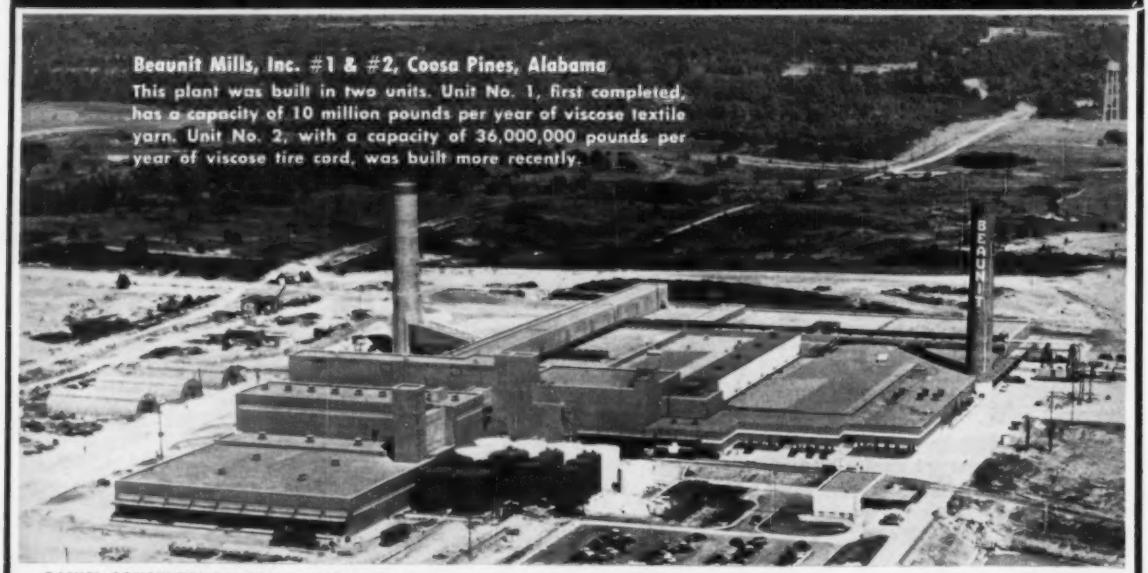

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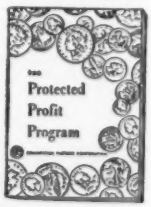

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Purchasing for the Textile Industry

THIS IS the story of purchasing in the textile industry. It was prepared from information supplied by purchasing agents, top executives of mills, mill managers, superintendents, department heads and their assistants, suppliers to the textile industry and their salesmen or technical representatives, and authorities closely affiliated with the textile industry.

The story of necessity contains both facts and opinions. The reader should be fully aware that the editors are basing this article upon interviews. The editors may have opinions on certain purchasing methods, but in this study they are neither condemning nor commending; they neither point with pride nor view with alarm; they are simply reporting.

STAFF PREPARED
EXCLUSIVE

The information in the article can be helpful to any mill man who must purchase and to any salesman who calls on the textile industry.

Purchasing agents or buyers in the textile industry are human; so are the salesmen who call upon them. Each has a job to do. If this article is taken in the right spirit by each, then each will have a keener appreciation of the job the other is trying to perform.

Throughout this article the term "purchasing agent" or "PA" is used to describe the official who does the mill's buying. It should be understood that this term is used only for convenience; in most small mills and some large ones purchasing is done by a company executive, in addition to his other duties, or by a mill manager or superintendent or an assistant, in addition to his primary job as a supervisor of production. And so wherever a "purchasing agent" is mentioned, the reader can substitute "superintendent," "assistant manager," or whatever title fits the buyer at his mill.

What Is Purchasing?

A purchasing agent sometimes defines his job by comparing it to the mission of the director of logistics of an army or of the Army Quartermaster Corps to see that the supplies required by the army are available in the right place, in the right quantity, at the right time, and of the right type. But the PA must go one important step further than the Quartermaster, and see that the right supplies are delivered at the right price. As one purchasing agent put it, "We must coordinate to get the best price, consistent with quality, which will permit the mill to manufacture goods in the shortest time, and at the same time leave a little over which we like to think of as profit."

However, the conscientious purchasing agent feels that his job goes far beyond merely interviewing salesmen and signing orders if his department is to be of most profit to the mill. A PA for a group of cotton mills gave this outline of some of the responsibilities which the purchasing agent has, or should have, in the planning and policy activities of his company:

He must be able to forecast future trends and the effects of these trends on the buyer and his operations.

He must study his trade papers and government reports in order that he may know his markets, to determine the best time and quantities to buy. He must have records over a period of years on consumption and cost.

He must be forever on the lookout for cheaper and better sources of supply. He must keep in touch with new developments in the fields of machinery, chemicals, electronics, etc., and be able to point out these matters to management.

Labor conditions, both in the mill and at the vendor's plants, as they would affect the buyer and his operations should be a subject for study.

The legal aspects of buying and selling should be uppermost in the purchasing agent's mind.

Purchasing should work hand in hand with traffic in order that improved services and lower transportation costs may be effected.

The purchasing agent should be constantly on the lookout for cheaper and better substitutes for materials now being used.

He should assist in standardization as much as possible, since standard products are generally cheaper and more readily procurable.

Purchasing, when its functions are as broad as pictured here, obviously has such an important effect on the profit picture of a company that many purchasing agents have been given a status which ranks them equally with production and sales. However, this trend to recognition of the importance of purchasing has not gone nearly as far in the textile industry as it has in most other manufacturing industries. And, obviously, the small size of the majority of textile mills does not permit them to employ a purchasing agent with either the time or the training to carry on all the activities expected of a PA for a steel mill, railroad, or public utility.

What Is Purchased? The textile

mill PA may be called on, and usually is, during the course of a year to purchase anything from safety pins to a boiler plant. For example, one mill chain purchased 31,000 different items (exclusive of cotton) during 1954, for which it processed about 40,000 purchase orders and contracts, and spent about $29 million. Purchases included such widely differing items as loom parts, garden hose, dyestuffs, gummed labels, rayon, and locomotive and freight car parts.

The purchasing department rarely, if ever, purchases raw cotton or wool; it may sometimes purchase other fibers used as raw materials, and usually purchases natural and synthetic yarns used in small quantities.

The purchasing agent may sign the actual purchase order for capital equipment, but the decision to buy and the selection of supplier has practically always been made by top management and production officials (the PA often helps to make the decision).

The purchasing agent for one large group of mills stated that his department is responsible for the purchase of all supplies used by the company, except raw materials. He listed as the major categories, capital equipment, fuel, general mill supplies, indirect materials, outside services for installation, new construction (after approval by the engineering department), repair parts, and utilities.

The major items purchased by some typical mills during the course of a year are given in the tables on pages 120-123.

The Purchasing Department

Who Is the Purchasing Agent? In most small mills the purchasing agent is the mill manager or superintendent, who has put on his other hat as buyer of supplies for the mill, and who sometimes considers this extra job as just a necessary evil. Most medium and large mills, however, have a full-time purchasing agent, and he may have arrived at his position through one of several paths.

Many PA's assumed that title after serving an apprenticeship in a production job. One route followed: production man works his way up to assistant superintendent, he is assigned purchasing responsibilities, a separate purchasing department is formed, assistant superintendent becomes full-time purchasing agent.

Another proving ground for fledgling PA's is the mill office, where the future PA gets his training in office routine. He may be transferred to the purchasing department in a subordinate capacity, reaching the position of department head through later promotion, or he may make the move from mill office to purchasing agent in one jump. Salesmen's opinions of purchasing agents with this background are often scandalous and sometimes verge on the libelous.

Still another source of purchasing agents is the graduate of the textile school or other college, with or without production experience. Courses in purchasing are now being offered by a number of colleges, and these provide a source for some mill purchasing department personnel, although most purchasing majors so far appear to be going to other industries.

PA's sometimes have arrived at their position in strange ways. One PA was a State Highway Patrolman, originally hired by the mill to act as a guard during trouble with a union. After the trouble was settled, the patrolman remained on as purchasing agent for the mill.

One opinion is that the ideal background for a purchasing agent is a textile school education, followed by thorough experience in production and supply departments of the mill, and if possible some time spent in the plant of one of the major machinery manufacturers.

The PA at one cotton mill has worked his way through the mill, and knows textiles. He is also an engineer. Once when two salesmen called at the plant, they bypassed the PA and tried to see the superintendent, who bawled them out and sent them to the PA. The

HERE IS HOW PURCHASING

This chart is a simplified (?) flow plan of how purchasing (or suggestions for purchasing) occurs in the textile industry. There are numerous variations. In some mills the purchasing agent or buyer may be any executive from president to assistant superintendent, instead of a man with the special title and duties of "purchasing agent." Irrespective of who the buyer is, the principle is the same.

Note that the direction of the arrows indicates the flow of ideas and suggestions and requisitions for purchasing to be from lower to top echelon; they may originate, however, at any level.

The ideas or suggestions may be only comments in a casual conversation while at work or off duty, relative to some piece of equipment or an item of supply; or they may be specific.

Only a few men in the mill can actually *buy* or *place* an order, but almost any man in the mill may *stop* an order or reduce the chances for a repeat order ("the darn stuff won't work" is not a favorable recommendation, even from the sweeper).

For the mill, this purchasing system has advantages and disadvantages; some mills believe that the advantage of having only one or two men discuss a product with the salesman gives the production men and executives more time to spend on other matters. They believe that it outweighs the advantage gained by permitting salesmen to discuss their products with the department heads, assistants, and section men (those who must actually operate the item of supply or equipment).

For the salesman, whether the system has merit depends on what he is selling, if he is already getting the business, how much time he can spend in introducing his line, and whether or not his product can be used without his demonstrating the technical application of it.

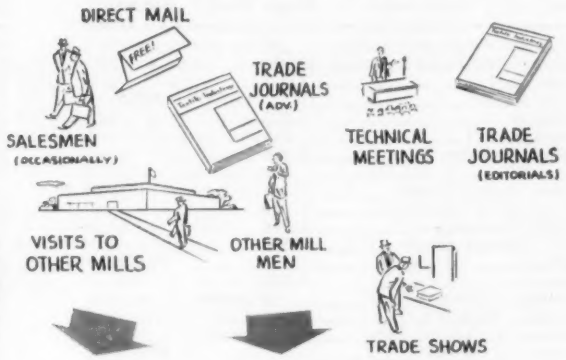
From the salesman's viewpoint, his best opportunity to place his product in the mill is to tell his story "down the line" to as many persons as possible. Although some mills want technical representatives of suppliers in the plants because of the service that they render, the trend definitely is toward permitting salesmen to discuss their products only with the buyer for the mill. The buyer may or may not send the salesman to the production overseer or call him in to hear the salesman.

How the salesman or the supplier "reaches" his potential customer is his problem.

The mill feels that how it handles its purchasing is its own business.

IS DONE IN THE MILLS

Executives and production men who do not regularly see salesmen of suppliers get information on products and equipment from these sources:



SECTION MEN — ASS'T. OVERSEER — ASS'T. OVERSEER — DEPT. OVERSEER

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TESTERS — TECHNICIAN — TECHNICIAN — LAB CHIEF

Asst's, Time Study Quality Control — TEXTILE ENGINEER — TEXTILE ENGINEER — TECHNICAL DEPT.

ASST'S. — TECHNICIAN — TECHNICIAN — CHEMIST

SKILLED MEN — ELECTRICIAN — POWER MAN — MASTER MECH. (mill engineers)

SUPT. — ASS'T. SUPT.

MGR. — VP — VP — PRES. — SEC.-TREAS.

Annual Purchases By a Cotton Mill With 56,000 Spindles and 1400 Looms

Item	Number of Items Used	Dollar Value*
Acetylene Welding Cylinders	32	
Aprons, Long-Draft Spinning	49,606	
Bands,Card	1,092	
Bands, Steel		6,659
Bearings	1,232	
Bearings, Ball	524	
Belting, Leather	3,335 ft	
Belts, "V"	310	
Blades, Doffer Comb	46	
Blades, Hack Saw	856	
Bolster, Spinning	2,898	
Bulbs, Incandescent	2,784	
Burlap		50,556
Casters	1,022	
Clothing, Cylinder, Card	48 cards	
Clothing, Flats, Card	4,600 flats	
Clothing, Licker-in, Card	28 cards	
Compound, Sizing		22,851
Cots, Roving	5,550	
Cots, Spinning	16,506	
Crayon, Mill	386 boxes	
Cups, Oil	224	
Files, Mill	1,336	
Fillet, Doffer, Card	42	
Fillet, Emery, Card	9,000 ft	
Fillet, Sand Roll	28,000 ft	
Fittings, Grease	368	
Fur, Shuttle	11,343 ft	
Gasoline	12,734 gal	
Gears (except weaving)	3,756	
Glue, Shuttle Fur	576	
Grease, Cup	33,694 lb	
Hose, Air	1,912 ft	
Oil, Lubricating	3,300 gal	
Oxygen, Welding	272 cyl	
Packing Materials		70,196
Paint (includes mill village)		78,069
Paint (mill only)		5,682
Paper Products		23,164
Wrapping Paper		6,085
Packing Tubes		5,693
Printed Forms		9,722
Paper, Kraft		5,598
Parts, Card		17,533
Parts, Drawing Frame		770
Parts, Loom		49,389
Parts, Open & Pick		2,337
Parts, Roving Frame		1,753
Parts, Spinning Frame		25,754
Parts, Spooler		1,969
Parts, Tying-In		3,835
Parts, Warper		237
Pencils	22,526	
Pickers, Loom	26,112	
Reeds		1,800
Rings, Spinning	1,628	
Rod, Welding	1,990 lb	
Saddles, Spinning Frame	5,160	
Sheaves, Harness	980	
Shuttles	7,492	
Soap, Scouring	4,108 lb	
Solvent		723
Starch		140,927
Sticks, Picker	6,914	
Stock, Ferrous		26,895
Straps, Binder & Box	4,208 lb	
Straps, Check	12,630	
Straps, Harness		2,514
Straps, Jack	1,040	
Straps, Lug	1,572	
Supplies, Electrical		50,610
Supplies, Hardware		27,915
Supplies, Medical		1,930
Supplies, Office		2,836
Tape, Friction	258 rolls	
Tape, Kraft Gummed	572 rolls	
Tape, Spinning		1,123
Thread, Spinning Tape Sewing		74
Thread, Stitcher		1,675
Tissue, Toilet		1,465
Travelers		3,740
Tubes, Fluorescent Light	1,472	
Tubes, Paper (for cloth packing)		5,693
Valves	118	

*Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

salesmen explained that they did not tell their story to purchasing agents, but only to engineers. The PA politely explained that he was an engineer, was also a production man, and that if he needed the product offered by the salesmen he would get in touch with them. They left as two embarrassed salesmen.

The Purchasing Agent Has Other Jobs. Just as the mill manager or superintendent may have to put on another hat as purchasing agent, the purchasing agent often must keep other sets of headgear in his closet. In a number of medium-sized plants, where the purchasing load is too heavy to relegate to a production supervisor but not heavy enough to warrant the full-time services of a PA, the purchasing and personnel departments may be combined, with one man heading up both.

Another instance where the PA also has other jobs occurs in the case of a mill which is a member of a chain with centralized purchasing, but where certain items are purchased by the individual mill. These PA's may have several unrelated departments under their direction.

One PA for a sizable mill group has so many other jobs that those who don't know him well, wonder how he ever has time to sign a purchase order. Each of his other jobs could well be full time. Luckily, this PA is a human dynamo.

Another PA also handles public relations (an important post at this or any other plant), civic activities, Chamber of Commerce meetings, etc. Civic affairs can demand so much of a PA's time that he may be asked, as one PA was, if he had "started working for the mill yet."

One exceptionally thin-spread purchasing agent can also claim the imposing title of superintendent of storage, mail, telegraphy, billing and warehousing, traffic, and raw material storage and dispensing.

Other purchasing agents are responsible for selling used equipment which the mill has replaced. In the case of one centralized purchasing department this is done by contacting dealers, advertising in trade magazines and trade as-

Annual Purchases By a Bleaching and Finishing Plant*

Item	Number of Items Used	Dollar Value**
Acetic Acid	179,205 lb	
Alcohol, Denatured	646 gal	
Alum	72,400 lb	
Antifoam Agent	1,192 lb	
Belts, "V"	88	
Binder Agents	588 lb	
Bleaching Agents	55,629 gal	
Brushes	215	
Bulbs, Incandescent	1,796	
Calgon	10,600 lb	
Caustic Soda	4,960,679 lb	
Chlorine	18,570 lb	
Cleaner, Machinery	17,310 lb	
Colloid, Protective	732 lb	
Desizing Agents	137,424 lb	
Detergent	33,466 lb	
Dextrine	105,000 lb	
Dextrose	15,776 lb	
Dyes, All Classes	221,168 lb	
Fixing Agent	103 lb	
Formaldehyde	690 lb	
Gloves, Rubber	60 pairs	
Lustering Agent	400 lb	
Mildew Preventive Agent	36 gal	
Oil, Finishing	18,093 lb	
Oil Remover	531 lb	
Oil, Sanforizing	174,244 lb	
Oxidizing Agents	21,860 lb	
Paper, Printed Forms		18,482
Parts, Bleaching		15,131
Parts, Calenders		1,952
Parts, Machine Dyeing		18,238
Parts, Tenters		7,346
Parts, Grey Room		287
Parts, Mercerizing		12,968
Parts, Sanforizing		2,832
Parts, Singe & Sour		2,619
Parts, Wash Range		979
Reducing Agents	427,584 lb	
Rust Remover Cloth	537 lb	
Salt	744,080 lb	
Scouring Agents	6,400 lb	
Soap, Chip	660 lb	
Soda Ash	112,200 lb	
Sodium Bichromate	21,860 lb	
Sodium Hydrosulfite	394,828 lb	
Sodium Silicate	43,282 gal	
Sodium Sulfide	16,980 lb	
Softeners, Cloth	287,736 lb	
Starch, Finishing	931,200 lb	
Stiffening Agents	7,200 lb	
Stripping Agents	2,514 lb	
Supplies, Office		5,307
Syrup, Corn	27,466 lb	
Tags, Shipping	155,000	
Talc, California	24,000 lb	
Thread, Stitcher	3,318 lb	
Tissue, Toilet	4,520 rolls	
Towels, Paper		752
Water Repellent Agent	400 lb	
Wetting Agents	117,410 lb	
Total Chemicals		657,980

*Based on the following annual production, in millions of yards; grey singe and sour, 82.2; bleached, 82.3; mercerized, 18.0; dyed, 18.4; wash range, 2.8; starched, 79.5; Sanforized, 27.2; calendered, 33.1; packed and shipped, 62.4.

**Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

sociation bulletins, and by direct contact with known users of the equipment. Other PA's may sell the equipment at auction, especially if large quantities are to be disposed of; in one instance a special department was set up to dispose of a large amount of surplus equipment.

Sale of scrap and waste is often the responsibility of the purchasing agent, especially in the smaller company. One company delegates the sale of all waste, scrap, by-products, and inactive materials or equipment to the purchasing department, except for the sale of cloth waste, which is handled by the sales department.

Who Is the PA's Boss? At most of the mills surveyed by TI during the preparation of this article, the purchasing agent reports to the top production official of the mill, usually the mill manager or vice-president of production. In some cases, particularly where a PA is purchasing for more than one mill, he reports to a financial officer of the company or directly to the president.

Many purchasing agents feel that their department should not be subordinated to production, since purchasing policies have financial and management as well as production implications. At mills where the PA is expected to enter into the planning of top management, he is given status equal to production, sales, etc. Where his function ends at the actual purchasing of supplies, his department is usually considered as merely a clerical addition to production.

In other words, find out who the PA's boss is, and you've found out how important he is considered in his own organization.

One purchasing agent, answering a question asked by one of TI's editors on the place of his department in his company's organization, said that he considered every employee in the mill his boss. This PA takes his job seriously, and feels that it is just as important for the sweeper to be satisfied with his broom as it is for the overseer of weaving to be happy with a loom or the loom parts that he purchases.

How the PA Spends His Time. The amount of time which the purchasing agent spends on the various parts of his job depends largely on the importance of the purchasing department in his company, and on the duties other than purchasing to which he is assigned.

The principal duties of most PA's interviewed could be broken down into salesman interviews, buying or ordering when the salesman is not present, office routine, plant visits, and company or department meetings or consultations. Of these, interviews with salesmen are the most time consuming for the majority of PA's.

One PA buys for a plant which is so located that few salesmen call on Monday or Friday. On the other three days of the week this purchasing agent estimates that he

spends about three-fourths of his time interviewing salesmen, or about 45 per cent of his total working hours during the whole week.

Another PA has a similar situation. He spends about 60 per cent of his time interviewing salesmen on Tuesdays, Wednesdays, and Thursdays. On Mondays and Fridays, because of the location of the plant, he can just about name all the salesmen who will call at the mill. This PA's staff handles most of the buying when the salesman is not present. Office routine is taken care of in the PA's spare time (between salesman visits), and he is usually in the plant at least six times a day, or the department heads visit him that often. Company or department meetings or consultations average one a week.

A New England purchasing agent, who does all the buying for his mill, and who also handles waste and scrap, estimates that he spends 40 per cent of his time purchasing raw materials (interviews, phone calls, etc.), 20 per cent in purchasing general supplies, and 40% selling waste and scrap.

In the larger mill groups, where

Annual Purchases By a Rayon Weaving Mill With 200 Looms

Item	Number of Items Used	Dollar Value*
Bands, Steel, Packing		1,076
Batteries, Flashlight	1,042	
Bearings, All	116	
Bearings, Ball	100	
Belting, Leather	167	
Belts, "V"	27	
Blades, Hack Saw	230	
Boards, Cloth		1,089
Bobbins, Filling	55,000	
Boxes, Corrugated		11,588
Bristles, Shuttle	4,500	
Brooms	230	
Brushes	100	
Bulbs, Incandescent	873	
Cloth, Emery	740	
Cloth, Blanket, Slasher	50	
Cloth, Velour, Race Plate	1,679	
Combs, Pick out	60	
Compound, Sizing		4,788
Cord, Harness	473	
Crayon, Wax, Cloth Marking	21	
Cups, Oil	34	
Felt, Pressure Roll	1,430	
Fur, Shuttle		1,048
Glue, Shuttle Fur		105
Grease, Lubricating	2,522	
Hose, Air	152	
Oil Lubricating	771	
Paint	493	
Paper, Kraft		1,870
Parts, Loom		13,281
Parts, Slasher		250
Parts, Dyeing		1,000
Pickers, Loom	2,430	
Reeds		3,200
Rod, Welding	267	
Sheaves, Harness	152	
Shuttles	960	
Sizing Agents		7,400
Soap, Scouring		920
Solvent		380
Sticks, Picker	3,592	
Straps, Binder & Box		444
Straps, Check	988	
Straps, Fiber	2,038	
Straps, Lug	98	
Tallow, Shuttle	56	
Tape, Friction	62	
Tape, Slasher, Paper	500	
Thread, Stitcher		127
Tissue, Toilet	3,200	
Towels, Paper		732
Tubes, Tape, Cloth		7,000
Tubes, Fluorescent Light	378	

*Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

Annual Purchases By a Woolen Mill With 60 Sets of Cards and 400 Broad Looms

Item	Number of Items Used	Dollar Value*
Acid, Oxalic	2,050 lb	
Bags, Paper		20,350
Boxes, Paper, Corrugated		139,700
Buffer Agent	190,000 lb	
Calgon	29,400 lb	
Caustic Soda	130,000 lb	
Dyes		322,000
Glauber's Salt		10,500
Grease Spot Remover	18,200 lb	
Hydrogen Peroxide	209,900 lb	
Mordanting Agent	39,200 lb	
Mothproofing Agent	45,787 lb	
Packing Materials		504,500
Boxes		253,600
Cartons		139,700
Bags		20,400
Miscellaneous		90,800
Penetrant		20,800
Salt	1,881,000 lb	
Scouring Agent, Wool	160,298 lb	
Sizing Compound (cotton warp)	26,297 lb	
Soap Finishing	26,325 lb	
Soap Liquid	323,000 lb	
Soda Ash	725,000 lb	
Sodium Hexa Meta Phosphate	20,950 lb	
Sodium Silicate	117,384 lb	
Softeners, Cloth	14,866 lb	
Starch, Corn (Sizing cotton warp)	86,517 lb	
Stripping Agent	691,694 lb	
Water Repellent	4,000 lb	
Wear Resistant Agent	6,975 lb	
Wetting Agent	167,600 lb	
Wool Oils	925, 852 lb	
Zinc Silicofluoride	43,200 lb	

*Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

the purchasing agent is usually a top official, the actual mechanics of purchasing is usually handled by assistant purchasing agents or buyers, with the PA spending most of his time on financial matters involving purchasing, formulating policies concerning purchasing, and supervising the purchasing department. In some cases the big-company PA may not even interview salesmen, except on rare occasions (where unusually large expenditures are to be made).

At the other end of the scale is the purchasing agent for a medium-sized southern mill; all purchase orders pass through his office, but he only interviews salesmen who sell minor items. Most purchasing is done by the superintendent and the overseers; the man with the title of purchasing agent keeps all records and handles administrative duties, and does some repeat purchasing.

Purchasing Department Personnel. During TI's survey, purchasing departments were contacted which varied in size from one man (the superintendent), who did all the buying, typed his own orders, and did all the bookkeeping; to centralized purchasing departments with 20 or more employees.

Since mills vary so much in size, it is hard to classify any purchasing department as having an "average" number of employees, but more mills with a full-time PA appear to have three employees (the PA and two girl clerks) than any other number. Other PA's staffs: spinning, weaving, and finishing plant, seven men and two girls; synthetics spinner and weaver, staff of three (recently reduced from nine, because of large cut in production); integrated mill group, 15 employees; full-fashioned mill with about 65 machines, PA and a clerk-typist; and one large central purchasing office has more than 20 employees, including the PA, several buyers, each specializing in certain products or services, and a host of clerical workers—this purchasing office also has a traffic department in connection with it.

The PA at a large cotton mill has two assistants who see certain salesmen who call frequently; they are permitted to purchase expendable supplies. If there is any doubt about from whom the supplies should be purchased, a brief conversation with the PA can clarify the situation. In addition to the two assistants, this purchasing agent has two secretary-clerks who handle correspondence, make out purchase orders, and keep records.

Purchasing Procedures

Purchase Orders. The actual mechanics of purchasing may be simple or elaborate, requiring minimum amounts of paper work or mountains of red tape, depending on the mill and the efficiency of

Annual Purchases By a Full-Fashioned Hosiery Mill Producing 200,000 Dozen Pairs Per Year

Item	Number of Items Used	Dollar Value*
Acetic Acid	450 lb	
Acid, Citric	160 lb	
Bands, Paper, Inside		1,076
Bands, Pliofilm, Box		2,129
Bands, Steel, Shipping		109
Body Producing Agents	3,684 lb	
Boxes, Corrugated, Shipping		2,635
Boxes, Hose		33,639
Caustic Soda	585 lb	
Chemicals		17,518
Dyes		1,190
Dyes and Chemicals		18,708
Folders (Inside Wrap)	14,271	
Inserts		4,014
Leveling Agent	10,270 lb	
Packaging Material		61,703
Salt	1,700 lb	
Scouring Agent	13,439 lb	
Shipping Materials		2,937
Softener, Cation	2,106 lb	
Softening Agent	351 lb	
Solvent, Transfer	485 lb	
Stripping Agent	500 lb	
Tape, Paper, Gummed		117

*Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

Annual Purchases By a Body Knitting Mill Producing 2,850,000 Pounds Per Year

Item	Number of Items Used	Dollar Value*
Bands, Steel, Shipping		4,664
Boxes, Corrugated		18,600
Boxes, Chipboard	400,000 lb	
Caustic Soda	150,000 lb	
Chemicals		48,500
Coal		20,000
Dyes & Chemicals		50,000
Electricity		15,000
Electrical Supplies		5,000
Hardware & Lumber		6,000
Mill Maintenance Supplies		2,000
Needles, Knitting		10,000
Office Supplies		3,000
Packaging Materials		150,000
Parts, Knitting Machine		7,500
Penetrant	40,000 lb	
Plumbing Supplies		4,000
Salt	60,000 lb	
Shipping Materials		35,000
Soda Ash	150,000 lb	
Water		5,000

*Since all figures are from a survey made by TEXTILE INDUSTRIES in the summer of 1952, dollar values of many of the items should be adjusted to take into account price changes which have occurred since then.

its purchasing system. In some cases requisitions to the PA may be signed by almost anyone in the mill above the title of sweeper, in others only assistant superintendents and above may order the purchase of supplies. In an appreciable number of mills the supply room initiates requisitions when the ordering point for a particular part or product is reached. The approval of the superintendent or other supervisor may or may not be required.

In many cases the purchasing agent himself initiates orders for routine replacement supplies (the supply room is often under the supervision of the PA). In short, the push which starts a purchase order on its way may be given from almost any direction.

The procedure followed at one large coarse-fabrics mill is probably typical: Each department overseer in the mill initiates purchase of supplies by forwarding a requisition to the purchasing agent, after first having had it approved by the superintendent. The overseer may designate a particular supplier from an "approved list," or if he does not designate one the PA makes his own choice from the list. Purchases of other than routine supplies must be approved by the vice-president of production.

The procedure followed by the central purchasing office for a large group of mills is designed to involve the minimum amount of paper work possible with such a large organization:

1. Each mill sends a requisition to the purchasing agent for the required supplies, or, if it is sure which vendor is to be given the order, it forwards the completed purchase order to the PA (bypassing the requisition step to save paper and clerical work).
2. The PA directs the requisition to the appropriate buyer (there are several buyers, each specializing in certain supplies or services). The buyer screens the requisition for completeness and correctness, and, if it is a purchase order, to see that the suggested vendor is on the "approved list" (the mills have an approved list of vendors, supplied by the PA).
3. The purchase order is typed, if necessary, or additional information added, and is sent to the vendor.
4. The vendor returns the signed "Acceptance Copy" of the purchase order, which is screened by the appropriate buyer and returned to the requisitioning mill. No copy of the acceptance is kept in the PA's office, to avoid too-large files.
5. Any necessary follow-up with the vendor is made directly by the mill, with a copy of any correspondence going to the PA.
6. All papers pertaining to the order are filed together at the PA's office, except for one copy of the purchase order which is kept in a numerical file for reference purposes.
7. The mill fills in the receiving report (all deliveries are made directly to the using mill), and approves the invoice for payment, with a copy to the central purchasing department.

At a small weaving mill, where the plant manager serves as buyer, the purchasing system is a model of simplicity. Only one form is used, and all orders originate at the mill (rather than at the main office in New York). A record of orders and deliveries is maintained by journal entries from purchase orders and invoices. All orders received are checked for accurate weight or quantity, quality, and proper billing. Invoices are approved for payment only after receipt of receiving slip from the proper department.

Follow-Up on Orders. Although most mills grumble about the necessity for having to do it, they usually have some sort of system for following up on orders to suppliers. At one small filament weaving mill, all orders are followed up by the plant manager (who does the purchasing for the mill). Dye orders, throwing orders, and all orders for supplies and services are kept on a master control board, each on its own clip board. Each morning after the mail is opened, all forwarding papers or invoices are recorded, and the entire clip board file is checked, item by item. Late orders, or orders which require accelerating or slowing down are the signal for a call or letter to the supplier. Says this mill manager, "Sometimes in busy periods half the morning can be spent on the phone hounding suppliers for delivery."

One medium-sized group of wool mills has an expediter whose principal job is to follow up on orders. The PA says that following up on orders is quite a problem when vendors fail to meet promised delivery dates, or continually make changes in dates.

At a large central purchasing office, servicing independent mills, a postal card follow-up is used, if delivery is not made in a "reasonable" time.

Where the PA has a personal friendship with an official at the vendor's plant, a phone call often expedites delivery, even when the salesman has been unsuccessful in speeding things up.

But not all late orders are followed up. One particularly hard-bitten PA does not follow up on any orders, if the supplier has given him a firm delivery date. This PA is exceptionally busy, and has no time for follow-ups. If the supplies are not at the mill on the date promised, that's the end of business with that supplier.

This PA feels that there is no excuse for late delivery; he has his orders placed so that the mills may operate, and he will only do business with vendors who can meet delivery commitments. Says he, "Some folks say I'm a mean fellow [many comments on this PA are unprintable—Eds.], but I want delivery. I have told suppliers that as long as they hold the price and give delivery, there is no need to send a salesman to see us."

PA's do not always wait until orders are late before checking up. At one mill, the PA begins checking after three months on orders for capital equipment with a six-month delivery date, to see how the order is progressing. This PA says that suppliers should recognize orders that are not routine, especially on certain kinds of equipment. "We set up an entirely new system of operation in one department, based on the piece of equipment that we were buying. The supplier promised delivery in June, then July, then August, and then I blew my top. The whole department was disorganized because plans had been made for the operation to begin on a certain date. That company will get no more of our business."

A PA emphasizes that any department of the vendor's company can lose an account by the handling of an order after the sales-

man has sent it in. The supplier's production, sales, shipping, and other departments should be coordinated so that orders are handled in a courteous and efficient manner, or the salesman may get no further orders.

Even the supplier's accounting department can lose business, as this one did: When the supplier's invoice arrived at the mill, the purchase order and invoice did not agree in price. The purchasing agent wrote the supplier to straighten it out, which was done; but the PA then took his discount within the allotted time after arrival of the corrected invoice. The supplier's accounting department felt that the bill should have been discounted only within the time allotted from the date of the original, erroneous invoice, and continued to bill the mill. When the PA explained his position, the supplier's accounting department became impatient. This handling of the disagreement in a nasty manner by the clerk provoked the PA, who felt it better to take his future business elsewhere. Poor handling by an accounting department in one instance cost a supplier a $110,000 order.

Canceling Orders. Most PA's expect a cancellation charge if the supplier has gone very far with a special order; on major items, the supplier has a cancellation clause in the contract which stipulates the charges.

One major machinery manufacturer has a standard cancellation charge, which includes all expenses to the extent that the order is finished, plus an approximately 10 per cent profit. If parts made to special order have been finished, no cancellation will be accepted.

It is against the policy of one purchasing agent to cancel an order, whether given verbally or in writing, unless some drastic change in mill operations has occurred. This became necessary once, so the PA called the supplier, who had the equipment crated and ready to ship. The mill offered to pay all engineering, crating, and other expense; a settlement was made that was agreeable to both parties.

In another case, the supplier kept postponing delivery for a year; the mill finally went ahead and made other plans. Upon cancellation, the supplier invoiced the mill. The PA thought that he should not pay for the item, but finally did—however, this unfair (in the PA's opinion) handling cost the supplier any future business with the mill.

One super-ethical mill does not cancel orders for any reason whatsoever. In some cases the need for equipment was eliminated before delivery; nevertheless the mill felt obligated to take it, and then dispose of it by resale or in some other way.

Some small mills, operating on a close budget and a minimum supply of ethics, will on occasion cancel orders, even special orders, if it appears to their advantage to do so. The supplier is usually protected by his contract, but if it's a buyer's market and the supplier is small, he'll probably play along to keep the account, and not demand payment.

In a tough supply situation, where big suppliers of a scarce item will sell only on a regular allotment basis, not only can orders not usually be cancelled, but often the allotment must be taken even if the mill would prefer to pass up a few shipments.

Phoned Orders. Most suppliers will accept phoned orders for emergency supplies, from mills which they are sure are reputable, to be followed by a written purchase order. Emergency orders are usually phoned in by the superintendent or mill manager, rarely by the purchasing agent.

One supplier, receiving a call for emergency supplies from a valued customer, suggested that he get it from another supplier, who was nearer the mill and could make quicker delivery. The supplier felt that the profit lost on the order would be more than made up for by the impression created at the mill that the supplier was looking out for the mill's best interests.

Incorrect Orders Raise Costs. Some suppliers moan that too many purchasing agents don't check orders for accuracy—to see that parts numbers, specifications, etc., are correct—and for completeness. This slipshod order writing causes needless correspondence and return of materials.

These suppliers emphasize that incorrect orders cost the mill money in wasted time and perhaps lost production, and that the extra cost to the supplier is inevitably reflected in his prices.

Rush Orders. Most suppliers expect occasional rush orders, when a mill suddenly finds itself caught short and production may be threatened, but suppliers are unanimous in complaining about the PA who marks every order "Rush," and expects delivery yesterday. In the suppliers' opinion, most of these hurry-up orders could be avoided by the anticipation of demand which should be expected of any purchasing agent. Rush orders cause increased costs for everyone concerned.

Another source of rush orders, in a different category, is the mill, almost always a small, marginal mill, which operates on a hand-to-mouth basis and can not afford to keep even the bare minimum of inventory on hand.

Purchasing Policies

Purchasing Systems. It seems safe to say that most mills have a more or less well defined system for purchasing. It may be simply the procedures developed through use over a period of years and accepted as standard without any written directives, or it may be an elaborate and carefully thought out set of rules for the operation of the purchasing department, drawn up into a manual covering every conceivable action that the department may be called on to perform.

One central purchasing office for a large group of mills has a mimeographed "Purchasing Manual," giving rules for all its operations in sections with these headings: purchasing policy, organizaton chart, scope, functions, pur-

chasing procedures, forms, authorization for capital expenditures, contracts, inventory control, materials testing, defective material, pricing machine parts, traffic, obsolete and surplus supplies and repair parts, scrap, used machinery, and vendors' representatives.

Another mill group, which has a purchasing agent at each mill, coordinated by a central purchasing office, has these headings in its "Purchasing Department Policies": selecting sources of supply, placing purchase orders or contracts, vendors' relations, relations of purchasing with other departments, centralized vs decentralized purchasing, and sale of waste.

The buyer for a small filament weaving mill acknowledged that he had very few rules for purchasing, and none of them were written down, but that the rules he did have were tough and to the point: know as many suppliers as possible for each product, and keep up with what they're doing: buy with a vengeance—use price and other conditions of sale as a wedge to play off one supplier against another to get the best deal; never put all your eggs in one basket—have at least two suppliers for each major item; keep the ordering system simple, order everything from the mill (not from a New York office), and keep as few people involved in purchasing as possible; keep inventories always at the near-emergency point.

Ethics in Purchasing. Since the question of ethics in purchasing arises principally in regard to a mill's relations with its suppliers, some mills have a written declaration of how their part of these relations shall be conducted. One central purchasing office sets forth as its policy:

> We desire permanent trade connections with reputable vendors.
>
> The following will be considered:
> First—Quality and quantity.
> Second—Service and delivery.
> Third—Price.
>
> Vendors' initial price shall be rock-bottom, promptly submitted. In case of revision of prices, all bidders shall be given similar privilege.
>
> All quotations should be accurate. When received they will be considered strictly confidential both before and after business is placed.
>
> In all transactions we look for strictest honesty, straight-forwardness, and complete satisfaction of promises and representations made.
>
> All adjustments of erroneous prices, and for material below quality standards, shall be prompt and fair.
>
> Concerns not complying with these standards will be promptly eliminated from our lists.
>
> We welcome helpful advice and assistance from our vendors. Their representatives will be received promptly and courteously upon visits. [From their own observations, TI's editors can confirm that this purchasing office is outstanding in its courteous reception of suppliers' representatives.]

The purchasing manual of another mill group has this to say on relations with vendors:

> All salesmen shall be received promptly, their story listened to and acted on as soon as possible. It is poor purchasing policy to keep salesmen waiting unreasonably or to make them return at some future time.
>
> The contact between vendor and customer shall be through Purchasing and, therefore, all requests for prices, catalogues, samples, etc., shall be made through Purchasing.
>
> When a free sample is accepted from a vendor an obligation is on us to give it a fair trial and report promptly.
>
> Prices are always to be considered confidential and never used as a means to play one against the other.
>
> The Purchasing Department shall never solicit funds from vendors no matter how worthy the cause.
>
> The Company does not tolerate the acceptance or solicitation of immoderate entertainment, significant gifts, or any loans from vendors or their representatives.

Selecting the Source of Supply

Where Does the PA Buy? Theoretically, the purchasing agent will place his orders with the supplier who can give him the best price for the right quantity of the right material, of the right quality, delivered to the mill at the right time. Actually, a number of other considerations weigh heavily in choice of supplier: policy of dividing business to avoid dependence on one supplier; the likelihood of receiving adequate service from a given supplier; the reciprocity policies of the company (buying from its own customers); purchasing locally to acquire or retain local good will; recommendation of equipment manufacturer (for lubricants, accessories, etc.); personal friendship with the vendor's personnel, either on the part of the PA or of mill officials; and the personal desires and idiosyncracies of supervisors and employees. Any of these can and frequently does outweigh the primary price-quantity-quality-delivery factors.

Sometimes the PA will give an order to a supplier other than the one who usually gets the business, to keep the usual supplier on his toes and make him realize that he does not have a proprietary interest in the account, and to encourage competition among suppliers of the item.

Occasionally there is no question of choice of supplier, if the product desired is made by only one supplier, is patented, or if one supplier is so superior to others in his field that it is impractical to consider any one else. And on other occasions the amount to be spent and the importance of the product is so small, and the products of the various suppliers are so nearly identical, that any detailed evaluation of source would be wasted effort.

Sometimes, perhaps often, PA's will continue placing orders routinely with the same source or sources, which at one time were determined to be the best available. One alert purchasing agent warns that failure to make periodic evaluations of long-time sources of supply may be the cause of large losses to the mill. The supplier's price may no longer compare favorably with his competition, or his product may no longer compare favorably (his product may not have deteriorated in quality, but his competitors' may have improved), or new companies may have appeared in the field with a superior product.

The purchasing manual for a mill group has this to say on selecting sources of supply:

> Determining sources of supply rests with the purchasing agent and through him down to the individual mill purchasing agents. He shall confine all purchases to sources of good reputation and financial standing suitable for fulfilling their commitments. This does not preclude him

from trying new small concerns, if he feels the material has merit. But commitments in this field should be kept small and more on a trial basis.

The Purchasing Department shall always buy on merit and never relinquish this principle to outside pressure.

Initiating new sources of supply and use of new materials and substitutes shall be a main function of the individual mill purchasing agents.

Dividing Business. Some mills make it a policy to avoid purchasing all their requirements of any item from one supplier, where possible, while other mills believe that their interests are best served by letting a single supplier have all the mill's business for a particular product. Good reasons can be advanced for either choice.

The primary reason for splitting orders is, of course, to avoid having the mill dependent on one source for a critical item. If one supplier is used and his plant is shut down because of strike, fire, flood, or other act of God, the mill is in a bind.

Another reason given by one PA for splitting orders is to provide greater assurance of having some source of supply during times of shortage (during the Korean War, for example). Even if one supplier is unable to make deliveries, other sources are likely to be able to provide at least part of the mill's requirements; suppliers that the mill has not used before are taking care of their regular customers.

This PA had a narrow escape when the Government took over the plant of a supplier who was the PA's only source for a certain item. The PA was able to make a timely switch, but he no longer puts all his eggs (or any other important item) in one basket.

Still another reason given by some PA's for dividing business is to stir things up among suppliers of a product, and make the competition keener. These PA's reason that they get a better product at a better price when the suppliers are competing strongly for orders.

One mill had a single source of supply for an item which ran into tremendous volume. The salesman thought he had the business sewed up. One day the PA phoned the salesman and asked him to fill a small order "Rush." The salesman became "smart" over the phone, and let the PA know that he could take his turn. As soon as the PA could find another source, he changed suppliers—but from then on he divided his business.

Equally good reasons are advanced by PA's for having only one *good* source for a critical item. The purchasing agent for a group of cotton mills feels that when a supplier knows he is getting all the business, he will schedule his production to take care of the mill's needs. He can list the mill as a "positive." This PA has never been let down because he had only one source of supply.

On one particularly critical item, this same PA gives all his business to a supplier who does not even have salesmen. The supplier has the reputation that "if they take the account, you'll never have to worry about delivery." This supplier's representative has only called on the mill once; he was in the neighborhood on other business, and just came by to tell the PA that the mill had a nice group of truck drivers.

Other PA's do not split orders, because it would mean loss of quantity discounts or would increase shipping costs. In addition, buying some items from more than one supplier creates extra inventory problems if the suppliers' products are different enough to require separate storage, and may have an adverse effect on standardization of the mill's product.

Some one-source PA's favor a single supplier for exactly the same reason that other PA's favor more than one source—for protection of supply in times of scarcity. However their reasoning is that a supplier who has been favored with all of a mill's business will in turn tend to favor the mill when materials are tight.

Reciprocity. Webster defines *reciprocity* as, "State of being reciprocal; mutual dependence, cooperation, etc.; also, a reciprocation; an interchange, return in kind, etc." To the PA it means "You scratch my back and I'll scratch yours;" it means that the PA must purchase from suppliers who are also customers of the mill.

Reciprocity always implies a threat, either away in the background where it can scarcely be seen, or almost bluntly stated, that if *you* don't buy from me, *I* won't buy from you. The direction of the threat, of course, depends on who buys the most from whom. One supplier to the textile mills, who also uses textile products, when asked to give a quotation always returns his bid with a letter outlining the amount of his purchases from the mill during the previous year.

Most PA's are against reciprocity, except "when everything else is equal," but nearly all of them practice it if their mill uses an item produced by a supplier who is also a customer. As one PA phrased it, with tongue planted firmly in cheek, "We don't like reciprocity; we don't practice it. However, any good PA has sense enough to know who is the mill's customer. Although we don't practice reciprocity, we just love our customers."

Reciprocity causes another PA to see red. He feels that it reflects on the PA's intelligence, usurps his prerogatives, and prevents him from running his job efficiently. But it might be added that the management of this PA's company does not see eye to eye with him.

Since the decision as to whether or not to practice reciprocity is actually made in most cases by top management, the PA has little choice but to comply.

Reciprocity at one wet processing plant is practiced strictly on an "other things equal" basis, but is not always practiced even then. In one case a customer of the plant began to handle a product which the PA was already obtaining from another supplier. Even though the new supplier of the product was a customer, and his price was competitive, he did not get the business. This PA believes that a vendor has a vested interest in a mill's business as long as he remains competitive, and that business should not be taken away from him to practice reciprocity.

One mill group has formulated a policy which requires that reci-

procity shall never result in the mill paying a premium for anything. "Other things being equal," the mill buys from its own customers. If more than one customer is involved, the business is divided.

Another type of reciprocity, secondhand reciprocity, so to speak, occurs when a customer makes it known to the mill that a son or great-aunt, or other relative or dependent, is now in business selling scramfers or widgfelkins, and that it would be nice if the PA could arrange to buy his supply of these production aids from the relative. What happens next depends on how big a customer has dropped the hint, the boiling point of the mill official who has had the hint dropped his way, and the state of activity of his ulcers.

Another form of secondhand reciprocity which sometimes occurs requires that the mill buy from a customer's customer. TI's editors found no cases of thirdhand reciprocity, although they have heard of them in other industries.

Local Purchases. Some PA's have a policy of making a part of their purchases in the town where the mill is located, for political or other reasons; while others say that they don't care if a supplier is in Topeka or Timbuktu—if he offers the best quality and price, and can make delivery, he gets the business. There is much to be said for either position.

One PA who regularly makes some purchases locally does so not to save money but to make money—he considers it an investment in good public relations. This is a reason commonly given for local purchases, particularly with large mill groups operating plants in a number of towns. They don't want to be looked on as outsiders, taking advantage of a community while contributing little to its welfare.

Other mills make local purchases as a long-range investment—they feel that improving local prosperity will broaden the tax base and so keep their own tax burden at a minimum.

PA's of course often make local purchases on a strictly competitive basis—a national organization may have a local branch (and so not be "local" in the sense we mean here); the local supplier may be in closer touch with the mill's needs, and so able to give better service; freight rates may give the local supplier a price advantage; local mill supply houses will sell in smaller quantities than some manufacturers, and there may be some saving in transportation costs if the supply house buys in larger quantities than the mill would. Even mills which do not normally make local purchases will do so on occasion, to fill emergency or rush orders.

One PA who makes local purchases only on the same basis as any other says, "We show no civic spirit in our purchasing; suppliers here in town have to meet competition or they don't get the business. However, we do consider ourselves a good citizen of the community; we give regularly to all local charities, and it is the policy of our management to encourage all mill executives to participate in local government and local functions."

ONE PURCHASING AGENT had occasion (during Prohibition) to make a purchase from a bootlegger for the mill president. After that, the bootlegger made regular calls "to service his account," just like any other salesman.

Personal Influence. No one would seriously question that most purchasing agents, like everyone else, are affected in carrying on their jobs by the personalities of the people they deal with. But one PA claims that the personality of a salesman has no effect whatsoever on his purchasing. He did admit, after some prodding, that he likes some salesmen, dislikes others, and is neutral toward others. TI's editors refuse to believe that they have turned up a robot purchasing agent in their survey.

One PA has a reputation for being particularly tough; he's all business and has no time for small talk with salesmen. But he also has the reputation in his own organization of having a soft spot in his heart for young, inexperienced salesmen. One such newcomer to the traveling fraternity had been taught how to beard the ogre in his purchasing den, but he appeared before the PA bashful and tonguetied. The PA asked the price of his product; it was right, so the PA said, "I'll take five bales," and that ended the interview. Another young salesman making his first call on the PA was asked the price of a carload lot, gave the answer, and the PA said, "Ship me two cars." It was a big order, and the first the supplier had made at that mill.

Another purchasing agent says, "Everything being equal, we buy from persons we like. For example, the representatives selling one particular product are all fine salesmen and good fellows. While we obviously can't buy from them all, we do try to buy from several, and we even give a token order to some occasionally. Yes, the personality of the salesman is definitely considered in determining what companies we will do business with."

Tip to salesmen: One purchasing agent (a mill manager) says: "Despite all the talk about making an objective purchase, based on service, quality, price, etc., personality definitely has an important bearing on whom the purchaser chooses. Most things such as price and quality should be equal, but a polite, pleasant salesman, who doesn't insult your intelligence with phony claims, back slapping, and the rest of it, usually fares better than his opposite."

Even a likable personality may be a dubious asset. One salesman is on first-name terms with every man, woman, and child in his territory; everybody likes him, so much so that he never has time to talk business. Said one amused PA, "You could know him for ten years and still not know what he's selling."

Personal influence exerted in

behalf of a supplier by the PA's superiors is harder to handle than influence on the PA himself, and the PA usually has no choice but to go along. One canny PA advises keeping a complete record of these transactions in the purchase order file, together with prices and other pertinent data on similar products from other suppliers. The PA is then protected in case of later repercussions.

Personal influence can work both ways: Some salesmen are strong within their own organizations, some are not; some can make delivery, some can not. Some of the best-liked salesmen are not a service to a PA because they can't get delivery when they get the order. Part of a purchasing agent's job (says one PA) is to know enough people in the top echelon of the salesman's company to go over his head and get delivery when the salesman is unable to do so. This PA frequently asks salesmen if they object to stepping aside and letting him call the home office direct. The salesman doesn't always like this procedure, but it is effective for the PA and helps him to keep the mill running.

Going over salesmen's heads may not make the PA popular, but this PA feels that he is being paid to keep the mill running, no matter whose toes he steps on. The same principle applies with the mill selling yarn or cloth trying to please its customer. The mill may tell the salesman that it can't do something, but it hardly ever tells a good customer that. When the customer calls direct, the mill does everything it can to deliver, even though its own salesman can't get the order filled immediately.

Locating Unusual Items. For locating suppliers of items that have not been purchased before, or are rarely purchased (items not strictly textile), the typical PA has many sources of information. If the product is carried by one of the vendors who is already on the purchasing agent's approved list, the PA is very likely to do business with him. If not, one of the salesmen who calls at the mill may be able to give information, or it may be obtained by a phone call to another mill.

Other sources of information commonly used are trade magazines, trade directories, suppliers' catalogues, general directories, and the classified pages of the telephone directory.

One PA maintains an extensive file of city directories, which he finds useful in locating suppliers for seldom-bought items. The Cleveland City Directory was mentioned as an example of a particularly useful guide.

New or Used Equipment? Most mills will buy used equipment and certain types of supplies when there is a cost advantage in doing so. But determining the *actual* cost of new versus used equipment is a complex affair, and other factors in addition to original cost must be considered. While the final decision as to whether to purchase new or secondhand machinery probably is not in the PA's hands, he will usually be called on to help make the cost comparison.

A reason frequently given by PA's for purchasing new rather than used equipment is that production can be increased with the new machinery, which will then pay for itself over some period of time. They warn however, that it is sometimes possible to get the equivalent production at a lower cost from the used machine by overtime work or by adding another shift. Then if orders fall off and the extra production is not needed, there will be less capital investment lying idle. In addition, the higher production of a new machine may upset the machinery balance of the mill.

Another cost factor the PA considers is the question of maintenance, which is usually less for the new machine. In addition, less money will usually have to be tied up in parts inventory, although this may not be true if the used equipment duplicates that already in the mill.

The cost comparison is made more difficult by the fact that the used equipment does not have a well established value, and that the price of used equipment fluctuates more than that of new. The PA is also likely to have a wider choice if he buys new equipment, since the only used equipment he can buy is what happens to be available.

While it is hard to fit it into the cost picture, the PA also must consider that new equipment will be backed up by the manufacturer's guarantee, but used machinery will rarely be guaranteed.

Sometimes the mill will be forced to buy used equipment, because it is needed at once and too much lead time is required in ordering new machinery. In one case a PA was unable to buy a new piece of equipment because it would not fit into the space available. Used equipment was the only solution. One mill group has several times bought items of used equipment for experimental projects of short duration, where the purchase of new machinery could not be justified.

Mill opinions on buying used parts and supplies vary. One New England synthetics mill buys used machinery on occasion, and has bought secondhand office equipment; it will not buy used bobbins, quills, and spindles. The PA for a mill group reports having bought used spinning frames, bobbin strippers, tricot machines, and filling winders; but he too will not buy bobbins, quills, or spindles. A filament weaving mill buys used twister bobbins, but will not buy used quills.

Secondhand loom parts are commonly bought. One mill recently needed a supply of a weave room item which cost $8 new, but good used ones were available for a dollar. The mill bought them. This mill also buys used equipment and reworks all or part of it, depending on the economics of the purchase. The PA at this mill will sometimes buy used beam heads instead of new ones, especially on the advice of production men.

The case for not buying used machinery was presented in these (perhaps slightly prejudiced) words by an official of a major machinery manufacturer: "One of the greatest injustices the textile

industry is doing to itself is condoning the practice of one mill selling to another secondhand machinery. Old and obsolete machinery that imperils the earnings of one mill certainly represents the same danger to the mill which buys it secondhand. Any mill which purchases outmoded machinery because of its cheap price is getting no bargain. That mill is paying in excessive payrolls for new machinery which it did not buy, and from which it can make no profit. Keeping outmoded machinery in operation by resale weakens the economic position of the entire industry."

Purchase of Machinery Parts. Many mills like to buy all parts for major equipment from the original supplier, since they prefer to deal with a large manufacturer of solid reputation, and also feel that if parts are bought from the machinery builder the responsibility for performance rests with him. But most of these mills will buy from another supplier when that supplier also provides parts for the original manufacturer, who can't very well complain of substitution in such a case.

One PA says that he prefers to buy parts for production equipment from the original manufacturer, but that the parts suppliers can often give him comparable quality at a better price, and with much quicker service. In some cases he buys from smaller parts manufacturers because the larger companies have given him the impression that "they are too big for their britches."

Purchase of parts is the same as any other purchase, in the policy of one mill. If the original manufacturer offers the best price, quality, and delivery, he gets the business; otherwise, he doesn't.

A New England PA also buys his parts where he can get the best price: "We use all sources. Sometimes the original manufacturer of the machine makes a part only in cast iron, and we want it in steel; in these cases we have the part made at a foundry. Sometimes we can do the job in our own complete machine shop. If quality is up to par, we'll get the part where it's cheapest."

Make or Buy? "Like all mills, we had a small machine shop. Shop personnel were not kept busy all the time with routine repair work, so we enlarged the shop a little, added a few machines, and now we are able to make many of the parts which we formerly had to buy. In addition to keeping our shop people busy, we also save the difference between our costs and what the supplier would charge us." So says a PA at a southern mill.

Hearing this story, another southern mill PA blew his top: "This guy is a fiscal idiot! I suppose that if one of the machinery manufacturers set up a cotton mill

to make his annual requirements of a few thousand yards of spinning tapes, this shop-building PA would congratulate him for having saved the mill's profit on the tapes, while at the same time keeping his employees busy when there are no spinning rings to polish.

"It is just as ridiculous for a mill to set itself up as a machinery manufacturer. Sure, every mill needs a machine shop for routine stuff and to make a part occasionally in an emergency, but any textile manufacturer who thinks he can go into the machinery business, just like that, and make a profit for the mill, is suffering from financial delusions.

"Let this PA look at some figures in a recent issue of TEXTILE INDUSTRIES [October, 1955, p. 87—Eds.] and see what he's up against. For each job in American industry there is a capital investment of $12,500, and it costs $450 every year to maintain it. These figures probably aren't quite correct for the textile industry, but they're not too far off. I know that the parts-building mill only 'enlarged the shop a little, added a few machines,' but I'll bet that if he knew his costs accurately, he'd find that he'd run right smack into that $12,500 capital investment. And then how would his parts cost sheet look?

"That's the fallacy that most mills trip over when they begin making machine parts in their own shop. They delude themselves that they're only utilizing idle equipment and men, with an insignificant additional investment. It just isn't so. If they'll analyze their true costs they'll leave parts making to those who are set up to do it, and stick to manufacturing textiles.

"Of course there are instances where it may be desirable for a mill to make certain parts—in an emergency, for example, as I mentioned before; and if the mill has a process which it wishes to keep secret, the extra cost of making the machine and the parts at the mill is undoubtedly justified. Admitting these exceptions, it still holds true that you can't make textiles economically in a machine shop, and you can't make machine parts economically in a textile mill."

What the Mill Does With Samples. If every salesman were permitted to drop samples on the PA's desk or have them shipped to the mill, a special department to handle samples would soon be needed in the average-size mill, and the cost of testing them would be out of reason. And so most mills put a limit on the number of samples they will accept, and allow a salesman to leave a sample only when there is some reasonable chance that an order will later be given.

A few mills pay for all samples accepted; this cuts down on the flow of samples into the plant, since the PA knows that he will have to sign purchase orders for them. Other mills feel that this policy has some merit, but that it may cause the purchasing agent to become too wary about accepting samples and result in the mill not being well informed about new products or competitive products.

One machinery manufacturer, whose product is not used up in

the course of testing, returns after two to six weeks to pick up samples (of small items) left with a mill. If the samples are retained and the mill places an order, the samples are charged for on the invoice.

Tip to salesmen: If the PA is reluctant to take a sample, don't press it on him. PA's advise that 99.99 per cent of samples received in such a way go into the wastebasket as soon as the salesman leaves. Likewise, samples received in the mail, unrequested, don't get much consideration.

Most mills test all samples accepted (except when high-pressured into acceptance), and in fact many mills consider it slightly unethical to ask for or accept samples if there is no chance that the vendor may later be given an order. At the average mill, the sample is first tested by the laboratory, if the product lends itself to laboratory testing; and if it shows promise it then gets a plant trial. At some large mills, the product may be tested in a pilot plant before any full-scale experiments are made in the mill. The mill test is usually watched by the overseer, assistant overseer, or section man, who reports his observations to the superintendent.

One large mill group has an elaborate set-up for handling samples in a standardized way. The appropriate buyer (there are several, each specializing in certain items or services) obtains the sample, together with all necessary technical and cost information, from the supplier. He and the PA then review all the data, and decide if a test of the product is worthwhile. They review their decision with the production department concerned, or with the engineering department. If the decision is favorable to the product, the PA decides to which of the mills it should be sent, and recommends to the mill that it test the sample. A project sheet is drawn up, and methods of test and engineering requirements are decided upon.

After the test has been made, the results are discussed by all concerned, and a decision made as to whether use of the product shall be taken up with the supplier. If more than one product was tested, each vendor is told of his rating in the test, but is not given any other information on the performance of his competitors' products. In some cases the vendor may not know any of the details of the test, or even on occasion the intended use of his product, if a process which the mill considers secret is involved.

On the question of paying for samples, one PA says, "Some are free, others we pay for. Usually we pay for raw materials. It depends on who (the mill or the supplier) wants the item in the mill more strongly."

The purchasing agent for a filament weaving mill says that he pays for about 50 per cent of the samples received. There is usually no charge for samples of supplies; filament yarns are shipped "no charge" if the sample is only a cone; larger quantities will be charged for.

There is a difference of opinion among salesmen as to whether samples should be charged for. Some contend that it is never wise to leave a free sample, since the mill will let it lie around and do nothing about it unless the sample has been paid for. Once a small lot is bought, the mill feels that it must test it, or at least run it to get its money out of the expenditure.

How the PA Keeps Posted. The conscientious purchasing agent, and that includes most of the guild, feels that keeping well posted on new developments in equipment, supplies, and processes is an important part of his job, and he spends a substantial part of his time staying up to date. He does this by regular reading of the textile trade magazines and other technical and business journals, interviews with salesmen, close association with his own company's supervisors and with other PA's, manufacturers' literature and direct mail, trade shows and conventions, open forum discussion meetings, visits to other mills, and visits to suppliers' plants.

The PA who does not subscribe to and read all of the textile magazines is a rarity. PA's particularly scrutinize the suppliers' advertisements, and announcements and mill reports of new equipment. At one mill, TI's annual "Modern Equipment Review" is the subject of a special meeting of all supervisors. Each item is gone over carefully, and its application to the mill discussed.

Reports in the textile journals of supervisors' discussion meetings (Textile Operating Executives of Georgia, Inter-State Textile Association, Southern Textile Association, etc.) also attract considerable attention among PA's, who get valuable information on equipment performance from them when the reports are by mill men. Many purchasing agents also participate in these discussions, and feel that they are well rewarded for any information passed on to other mills, by the help they in turn receive.

But not all PA's believe that cooperation is a two-way street: "We do read the trade journals carefully for any articles that may be helpful to us, but we don't let stories be written about the mill because we don't think they would help us."

Many PA's consider salesmen the best source of information on new products and processes, both their own company's and those originating elsewhere; hence, if for no other reason, these purchasing agents try to see all salesmen who call at the mill, and to maintain good relations with them.

Apart from the trade magazine and the salesman, the production, engineering, and research personnel at the PA's own mill are often the best source of information on new products. One purchasing agent, if he sees something of interest in an advertisement or article in the textile press, or hears of new development in some other way, brings it to the attention of the mill manager or a department head.

At another mill, all new developments are referred to the research department. This department evaluates anything new which may be of interest to the

mill, either on request or on its own initiative, and so is able to give authoritative data to the PA and the mill supervisors. This research department considers it one of its primary functions to keep up to the minute on all new developments which may conceivably affect the mill. For example, all new synthetic fibers are tested as soon as the department hears of their existence and can obtain samples.

Personal visits to other mills are of course a fruitful source of information on new equipment and processes. In the case of major equipment, the visits are frequently arranged by the salesman, to a mill making the same product as the prospective purchaser.

One PA candidly admitted that, when he is unable to get into a mill which could give him some information that he wants, he has a salesman with entree to that mill snoop around and get him the desired data. In defense of this PA, it should be said that his plant has a completely open door policy for other mill men. No defense can be offered for the salesman who does the snooping. Other salesmen consider him in the same category as a fellow named Arnold (Benedict, that is)—a traitor to his own group and with no respect from the other. Salesmen take pride in helping mills—and in not disclosing one mill's secrets to another.

The better-to-receive-than-give philosophy is represented by a purchasing agent who said, "We don't let anybody in our mills because we think that we have a good operation and do some things that other mills in the industry have not discovered. However, we do get information from other mills—we have 'sources.'" The editors hasten to add that this is by no means a typical or even common outlook. Most mills feel free to call on other mills for help as occasion requires, and expect to reciprocate in their turn. According to the representative of one mill group, which frequently exchanges information with other mills, "The toughest mills to exchange information with are the finishing plants, which frequently have their own philters and concoctions and don't like to part with information on them."

Some PA's make a practice of visiting vendors' plants, at least in the case of those who supply major items. One PA feels that this is the best way to get acquainted with the people on whom the mill so largely depends. He feels that if the supplier invites him to the plant, he must have a plant of which he is proud. The visit is sometimes arranged by the supplier, who furnishes transportation by plane, train, or car.

On one visit, the PA was very favorably impressed with the supplier's plant; when the supplier matched samples of his product with those of the existing source of supply, he got a small amount of business, which became larger as time went on. Knowing the people in the supplier's plant gave the business deal a personal relationship.

Another reason for visiting suppliers' plants and getting to know their top men is that deliveries can often be arranged by personal contact at the home office when the salesman does not swing enough weight in his own company to get preference on critical items.

The value of direct mail advertising in informing the PA and production personnel of new developments appears to be negligible. The typical PA throws most of this mail into the wastebasket after a glance, unless it contains especially helpful information. Price changes that come in by mail are saved, and occasionally a piece of direct mail will be passed along to the superintendent or department head.

One PA comments that any direct mail which says "Free" is thrown away without further ado. He comments, "Ain't nothin' free!"

In the opinion of many PA's, there is just too much direct mail advertising, especially the kind that contains no information. They want facts.

Where Do Purchases Originate?

Who Influences Purchases? As any good salesman knows, the decision as to whether or not to buy his product is often made down in the mill, by an overseer, section man, or by someone lower down on the scale, even though the superintendent, manager, or purchasing agent nominally makes the decision, and only a few may actually sign purchase orders. The PA may have the power to override the production personnel and use his own best judgment in deciding on which supplier to favor with an order, but it is a wise PA who uses his authority with discretion.

One PA, who actually has authority to order according to his own analysis of the best interests of the mill, and may disregard supervisors' recommendations if he sees fit, nevertheless uses considerable diplomacy in dealing with the people in the mill. After all, he says, they are the ones who will use the equipment or supplies that he purchases. He asks for their opinion on supplies, instead of arbitrarily telling them that he is going to purchase such and so.

If he knows more about the subject than the department head (and he frequently does, since he has had wide mill experience), he can ask questions or point out certain features which the department head may not have taken into consideration, and he does it in such a manner that no offense can be taken. This PA has a big job, but he doesn't try to be a big shot in his own organization.

Often, if the personnel in the mill have a preference for a particular supplier and the supplier is competitive, he will be given the order to maintain harmony in the mill family, if for no other reason. Since operating personnel are unlikely to have any knowledge of competitive pricing, delivery, etc., the PA sometimes has to substitute another supplier for the one which the department named on its requisition. And, of course, if the PA suspects that a supplier has been specified merely because of friendship of an overseer with a salesman, or because of a salesman's

high pressure tactics in the mill, the order is unlikely to go through without the PA substituting another supplier.

It is true that some PA's have no option but to accept the supplier named by the supervisors. In these cases the purchasing agent's opportunity to be an important factor in the mill's efficient operation has been stultified, and his function is merely clerical.

Many mills, particularly those with more elaborate purchasing set-ups, have a formal "approved list" of suppliers, and departments submitting requisitions to the purchasing agent, if they wish to specify a particular supplier, must name one from the approved list. A supplier which the department wishes to have added to the list must first go through the mill's regular procedure for approval before purchases are made from him.

All this is not to say that the overseers and other supervisors do not have a large measure of control over what suppliers the mill shall buy from. Since the procedure for getting on an "approved list" usually requires that the supplier's product be tested in the mill, the report submitted by the mill personnel is likely to decide whether a particular supplier makes the grade or not. The PA is unlikely to add a supplier's name to his list of sources after an adverse report from the mill. And since most PA's do not have the time, and many do not have the training, to follow mill trials themselves, they must rely on reports from the department which has tested the product.

One PA comments that at his mill department heads and the superintendent send in requisitions; they may suggest sources of supply, but the PA uses his own judgment about where to purchase. This purchasing agent has knowledge of all equipment in the plant and the needs of the plant, and he knows when to follow the suggestion of the department head and when not to. If the requisition from the mill is for an expendable supply which will be purchased by an assistant, the PA still has a look at the requisition and can note a source of supply if he has a preference.

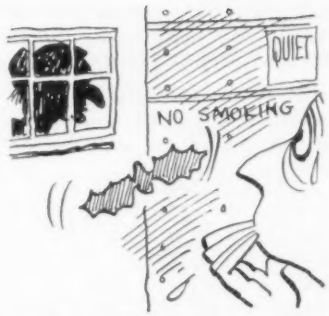
The PA for a group of wool mills stressed that the idea of getting some item of supply can originate with any employee of the company; however, its necessity must be checked through the responsible head of the department concerned. When suggestions for purchasing new items of supply are received from mill employees, and are backed up by good reasons, the employee may be rewarded under the mill's employee suggestion system. At these mills, requisitions may contain as many as six signatures.

The purchasing agent at a cotton finishing plant (a member of a mill group, but which does its own purchasing) reported that, if two or more dyes which the plant uses are equal in quality, the supplier who arrived first gets the business, except where the order is split for protection of supply sources. The company always buys dyestuffs on money value.

Cooperation is close between the PA and the dyer at this plant; a dye would not be bought without the dyer's consent. All dyestuffs are evaluated by the lab for money value, and the PA and dyer have copies of the results. Actual specification of the dye to be purchased is made by the dyer, but it is unheard of for the dyer to specify a dyestuff which is not the best money value. But, the PA emphasizes, in the final analysis the dyer has complete control of which dyes are purchased.

Discussing the purchase of new items at one large cotton mill, the PA said that he, the superintendent, or one of the overseers usually first gets word of new developments through an ad or an article in a textile magazine. After discussion of the item, they may go to another mill where the item is running. If favorably impressed, the PA then calls in the salesman and listens to his story. This mill is always on the lookout for new ideas which will save money.

At a New England synthetics mill, the request for purchase of items directly concerned with production—supplies, raw materials, and equipment—comes from production supervisors. For other material, real estate, and power, the request goes to the PA through the engineering department. Foremen of the different sections of the engineering department (machine shop, electrical, plumbing and steam, engine room, and millwrights) route their purchase requests through the chief engineer, who may or may not approve their suggestion for a supplier. The need for shop equipment is decided by the master mechanic, but the PA decides where the purchase shall be made, and in fact he has veto power over any department's specification of a supplier, if he feels that the mill's best interests will be served by purchasing elsewhere.



THE RECEPTION ROOM in some purchasing departments is like the dungeon of a medieval castle. To be peered at by the receptionist through a miniature portcullis can be a disconcerting experience for the uninitiated.

Purchase of Major Equipment. The decision to purchase major processing equipment is usually with an executive of the mill or the production head. However, in a great many instances the purchasing agent is in on the conference so that he may point out any difficulties experienced in the past, and to contribute the benefit of his experience.

On some heavy items, the decision is the PA's, but he usually does so in consultation with the department head concerned, or with another executive of the plant. Before buying a truck and trailer, one PA visited two other plants to discuss various types of trucks and their cost per mile. He was checking the return on the investment, as compared to the rates of a common carrier. All the facts and figures were compiled

and given to the comptroller, who carried the calculations further. The summary of the investigation was a three-page typed report from the comptroller, which went to the PA and five others for decision.

Determining the Price

Obviously, one of the chief responsibilities of the purchasing agent is to see that he obtains the best price possible for the equipment and supplies that he purchases for the mill. As a general rule of thumb, the PA will be satisfied if, in his judgment and as far as he can determine, the prices he has paid are at least as low as those paid by the mill's competitors.

Again obviously, price should not be the only consideration in making a purchase, although it often is, and the extent of the practice of purchasing on price alone is a frequent subject of bitter comment by both suppliers and mill men. One mill chain, realizing that a low initial price may be no bargain, lists price third of the three factors it considers in evaluating a supplier—quality and quantity, service and delivery, and price. Any efficient PA does the same.

Published Price Lists. Because of the low volume of purchases by the PA at the small mill, he usually goes pretty much by published price data in entering a price on his purchase orders. This is also frequently done by big companies for small orders, where the time involved in taking bids or negotiating would not be worth the saving that could be effected.

Price lists are the only reason one PA opens the direct mail advertising he receives; price list revisions come in almost every mail, and the PA can not afford to confuse them with circulars.

Some PA's, when dealing with suppliers in whom they have complete trust, will send a purchase order for a comparatively minor item with the price open, or will specify "price as per last order." The PA at one centralized purchasing office does this, as he puts it, "to help prevent getting wrapped up in our own paper work."

PA's who use suppliers' price lists as a basis for purchases are well advised to be sure that they are kept current, and that the catalogs of all the suppliers who could provide the item are kept available and that reference is made to them to be sure that a usual source of supply is not out of line.

Negotiation. This is the method of pricing most commonly used by the mills when a particular supplier of a product is preferred. Negotiation is also a means for making a supplier bring his price into line when he can be shown that his price is higher than that of others supplying a comparable product. And, with some PA's it is a club for beating a supplier over the head, sometimes with wholly fictitious quotes of other suppliers' prices.

But not all PA's like to haggle. They want a supplier's best price the first time. Salesmen have learned this of one busy purchasing agent. A salesman was telling his story, and when he got to price the PA said, "Write down your best price." The salesman did, and the PA said, "Too high." The salesman then tried to reduce his price, but the purchasing agent cut him off with, "No! I said write down your best price; I don't have time to haggle."

This same PA told one salesman that he could have all of the mill's business for his product, provided he met delivery dates and his price was not raised. One day the salesman came in and said that the price had gone up. Without any discussion, the PA found another supplier who met the original price. When the first supplier was told that he had lost the business, he tried to reduce his price to its former level. The PA brushed him aside, remarking that if he could now afford to lower his price, he never should have raised it in the first place. Besides, the second supplier was entitled to the opportunity of supplying the goods, in the PA's opinion, because he met the price originally without any haggling. Obviously, this PA is no politician.

Another PA who doesn't like to haggle once had some used machinery for sale. He looked at his capital equipment sheet, knew what the mill had in the equipment, and therefore knew what he had to get out of it (without charging it off as depreciation). A dealer asked for his price; the PA said $300. The dealer asked if he would take $200. The PA said no. The dealer asked what he would take. The PA said $600. The dealer left. Later he called long distance to ask if the PA was ready to sell. The PA said yes. The dealer asked the price. The PA said $900. The dealer bought. From then on he did his haggling with some other PA.

On another occasion, a man who needed some equipment the PA had for sale tried the same bargaining tactics. The price went from $250, to $350, to $450. The dealer left the PA's office and met a salesman in the reception room. He told his story and said, "Every time I ask the price, it goes up. I've got to have the equipment; what shall I do?" The salesman, who knew the PA well, told him that if he asked the price again, it would be more. He suggested that the man write out a check for the last asked price and let the secretary take it in to the PA, to see if the PA would sell or if the price was going up by the minute. The man sent in the check; the PA let him have the equipment at the last quoted price.

Competitive Bids. This is the method of pricing preferred by most mills when they buy in appreciable quantities or in any case where there is a considerable expenditure. It is, however, too time-consuming to use for supplies needed immediately. But some mills ask for bids on all purchases where the time element or smallness of the order does not make it impractical.

Taking bids may be a matter of calling in several salesmen and asking their price (with or without haggling), or a formal "Request for Bid" may be sent to suppliers who will be considered for the

order. One centralized purchasing office uses an ingenious form for requesting bids, which is sent to from two to four suppliers, depending on the availability and importance of the item in question. The form consists of an original with two to four copies, interleaved with carbon paper in such a way that it need only be typed once, but each supplier will not know to what other suppliers bids have been sent, and the name of the specific mill in the group requesting the item is not shown on the carbon copies. According to the PA at this office, the form has saved enough typing and paper work that one order clerk has been eliminated. (Obviously, only the largest purchasing offices could make this much of a saving.)

The PA at an integrated spinning-weaving-finishing plant routinely asks for bids on equipment, say from three firms that he is willing to do business with. When the bids are in, if the lowest is what the PA considers a fair price, that bidder will get the order. However, if he thinks that all the bids are too high, he calls in the lowest bidder, tells him he is low bidder but that his price is still too high, and offers him say $8,000, which is what the PA is willing to pay for the equipment. If the lowest bidder declines, the PA calls in the second highest bidder; if he also declines, then the highest bidder is given the opportunity of taking the order at $8,000.

Nine times out of ten the order is placed with one of the three, usually with the supplier who was previously the *highest* bidder. (The explanation probably is that the lowest bidder, knowing he is lowest, feels that the others will not underbid him on a second chance; but the highest bidder, since he is the last one asked if he will revise his bid, knows that three entirely different suppliers will enter the picture if he doesn't meet the PA's price, and so takes the order at $8,000.) The PA is not taking sliding bids (advising high bidders of the price quoted by the lowest bidder, and permitting them to meet or beat it) because the lowest, next, and highest bidders are given a chance at the business in that order.

This same PA once received bids ranging from $27,000 to $74,000 on a certain installation, all bids meeting the mill's specifications. The lowest bidder was invited in, told the range of bids, and asked if he wanted the business at $22,000. He took it.

The purchasing manual for one mill group notes that a supplier may bid extremely low because he is trying to buy his way in. The manual directs that, if quality, delivery, and service are up to par, the bid shall be accepted and the transaction treated as a one-time purchase.

It is against the policy of most reputable mills to take sliding bids; with some mills it is a regular practice. Even the ethical mill will practice it occasionally, for example if collusion is suspected among suppliers. On one request for bids, a PA received a low bid of $35,000. Even though he disapproved, he was required to notify other bidders that they were too high and ask them to beat the low bid. This sliding bid kept going until the items were purchased for $24,000, a saving of $11,000. The PA considers that the suppliers contributed to the situation by changing their bids, and he wonders just how much profit these companies are making on the particular item when they could afford to reduce the price as they did.

One PA noted a practice to which he objects: Some companies who receive a "Request for Bid" form promptly call the PA on the phone and try to sell him a bill of goods on their quality, service, etc. The PA cuts them off short, telling them that he had a definite reason for requesting bids, and that he will not discuss the matter until all bids are in.

Another practice frowned on by ethical PA's is that of asking for bids from a supplier to whom the PA has no intention of awarding the order, to provide ammunition for beating down the prices of other suppliers.

Most PA's will not reveal a quotation to a supplier's competitors, but there is disagreement as to whether unsuccessful bidders should be told why they were unsuccessful, or if they should be told the name of the bidder to whom the order was awarded.

Quantity Discounts. Most mills of course try to take advantage of quantity discounts by purchasing in the largest economical lots, and the saving possible through quantity discounts is one of the principal reasons advanced for centralized purchasing. However, when the added inventory costs of purchasing in large lots are properly evaluated, they may outweigh the savings made through quantity discounts.

Preferential discounts which are not based on actual savings made by the supplier through selling in quantity are illegal under the Robinson-Patman Act, and both supplier and purchaser are held to be guilty.

Trial Basis. Mills occasionally, but not frequently, will make purchases on a trial basis; that is, payment to be made only if the product is found to be acceptable. One PA recently took some small parts for a production machine on a trial basis; the manufacturer was eager to get them into the mill. Usually this mill prefers to buy outright, but there are times when the PA is not sold enough on the product to buy it, but he and the superintendent or a department head will accept and test a small lot on a pay-if-satisfactory basis. Such items are watched just as carefully in this mill as if they had been paid for. On any items that run into a sizable amount of money, the mill wants to pay for the test samples, rather than be under obligation to the supplier.

Another PA, at a woolen mill, says, "It is not fair for a purchasing agent to ask a vendor to assume full responsibility for the successful use of his product. Before I buy, I must be sure that the item has better than a fair chance for success. I may place a trial order, but if it fails I still pay for it. It was my mistake, not the vendor's."

TI's editors found only an occasional mill which purchases on consignment, i.e., supplies shipped to the mill are only paid for as used.

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"Satisfaction Guaranteed." With most reputable suppliers, a guarantee of satisfaction with their product is understood, and may be stated in writing. After all, suppliers live on repeat business. As one PA says, "In effect, we buy most things on a satisfaction guaranteed basis. We don't have any lawsuits, because we pick our suppliers carefully and have no need for enforcement of protective clauses."

Another PA says, "A fair amount of our purchases are made on this basis. We will at times demand a guarantee of satisfaction; we figure that the less we have to do with the technical details of a supplier's product the better off we are; we're more interested in results."

Leasing, Financing, etc. Few PA's were found who had had firsthand experience with the "new ideas" in purchasing or obtaining the use of equipment, lease, lease with option to buy, financing, etc.* Most of those who discussed the subject were not enthusiastic.

Said one PA: "Generally we don't think much of the new ideas in purchasing, and feel that we're better off borrowing from a bank to make an outright purchase. Some of the financing houses are OK for a mill that is broke, but we feel that the mill might just as well go to a consumer finance outfit. If it is necessary, there are better ways of financing a purchase, for example by a chattel mortgage."

Leasing with option to buy is now almost obsolete, as a result of a Treasury Department ruling that payments made as rental and later credited against purchase can not be charged off as taxes.

"Some of the newer methods of getting equipment are not bad," says another PA, "however, the man who uses them usually pays five per cent. You can also charge depreciation, so why do it?"

The PA at a New England mill believes that leasing machinery is all right under certain circumstances, but that normally the mill would prefer to own its equipment. This mill has leased certain equipment for years—the machinery manufacturer will not sell outright—but would rather purchase it. This PA says, "If the machine will have usefulness in the plant for only five, ten, or fifteen years, we'd prefer to lease it.

Speculative Buying. Most mills do not try to make money on their inventory of supplies and equipment. As the PA for one large mill group put it, "We try to avoid gains or losses on our inventory position. We prefer to make money on our ability to manufacture." Another says, "We rarely, if ever, buy on speculation. We feel that a low inventory is the same as money saved by purchasing at a lower price." Most purchasing agents would echo these sentiments.

Some mills, of course, do speculate on their cotton or other raw materials, and some have a reputation in the trade of turning more profit from skillful prediction of the cotton market than they do from textile manufacturing. On the other hand, it is not unknown for a wrong guess to cost a mill its shirt.

One buyer, who is general manager of a filament weaving mill, described a successful speculation: "A few years ago I got a tip from a yarn broker that a certain type yarn was at its lowest point, and due for a rise. I got on the phone to the Old Man, who was in Florida, and explained the situation. He gave his OK, so I bought $250,000 worth. Then the Korean War came along, and the price of the yarn doubled. We not only made cloth at a good price advantage, but sold some yarn. As it turned out, I got a nice bonus; if the price had dropped, I would have been hung, drawn, and quartered." Needless to say, this windfall was sheer luck; the mill man is not, and doesn't pretend to be, an expert in foreign affairs.

Handling of Containers. Returning and keeping accounts straight on such containers as drums, barrels, electrical cable reels, beams, spools, quills, etc., can be a big problem, especially in a small mill. One PA has a "drum account" set up for metal drums; when they are returned to the supplier they are credited to the mill's account Many containers are now the nonreturnable type, and these the PA sells to a cooperage, or to another dealer in such wares.

Says another PA: "We usually pay for cartons, and keep them; drums and other valuable containers we pay for and return, like the 2¢ back on the soda bottle." The cartons are used for storing yarn, storage of records, or as shipping containers for piece goods.

Service. Most PA's hold suppliers responsible for seeing that their equipment gets properly started in the mill. Some suppliers, of course, make an installation charge. All PA's hold a supplier strictly responsible for his equipment doing exactly what he said it would when the purchase was made.

When a supplier has put equipment in the mill and it fails to run properly, one PA calls the manufacturer and says, "Gentlemen, your equipment is here, it has your name all over it, and it ain't running. . . . " From that time on the problem is the supplier's. However, if the mill has done something wrong, the PA tells the supplier that the mill has messed things up, and will be glad to pay for the cost of service men straightening it out.

Machinery manufacturers are often helped by mills which run their new equipment. The mills turn up previously unrecognized "bugs," and make changes which are later adopted by the manufacturer.

Suppliers sometimes get peculiar calls for service: A salesman selling picker sticks called on a PA and then went to see the overseer of weaving. After looking over the picker sticks, the overseer told the salesman that he would not

*TEXTILE INDUSTRIES has carried several articles about the "new ideas" in equipment purchasing. See, for example, "To Lease Machinery," TI for May, 1954, p. 75; "Modernize on the Installment Plan," Sept., 1954, pp. 127-129; "Graduated 10-Year Terms on Textile Machines," Feb., 1955, p. 140; and "Materials Handling Equipment for Rent," April, 1955, p. 95.

change his source of supply because he was "buying the finest picker stick on the market." Very shortly thereafter, the salesman's firm bought out the company which was making "the finest picker stick on the market." On his next stop at the mill he again called on the overseer, who met him with, "Say, fellow, can you handle a complaint on these picker sticks?"

Quality Control of Purchased Materials

The outstanding fact about quality control of purchased materials by the mills is that so little of it is done. A mill man with exceptionally wide acquaintance in the industry estimates that even fewer spinning, weaving, and knitting mills (as distinct from finishing plants) have an organized system for testing purchased products than the number who do research. And, he says, the number of mills who actually do research can almost be counted on the fingers of both hands.

One PA explained the reasons this way: "The great majority of suppliers are honest, so the purpose of a quality control program (as it affects purchased supplies) is not to detect chicanery, but to turn up honest mistakes. We have found that these mistakes just don't occur frequently enough to warrant a formal quality control program. We do spot-check purchases of certain items, and our 'quality control program' consists of watching the supplies and equipment in action. If anything goes wrong there, the supplier hears about it."

Most suppliers are honest—but one hosiery mill found that not all are. This mill formerly used a certain type of needle. The packages were always opened and used without anyone ever counting the number of needles which they contained. This oversight occurred to the superintendent, and he began to check on the number of needles in each box. He found that most of the boxes were short, often by as many as 16 needles. The PA at this mill reports, "I'm happy to say that this supplier is no longer around."

This PA feels that experience with a supplier soon gives the mill a good idea of how often that supplier makes mistakes, and if he is well acquainted with the supplier he knows how much control the supplier has over his product, and so how much spot checking at the mill will be necessary to control supplier mistakes.

In brief, most purchasing agents feel that it is not necessary or desirable, or economical, to test all lots of all purchased items, even by spot checking. "Well-chosen suppliers are the best quality control program," many PA's say.

Some Tests That Are Made. Some supplies are so costly and may be so variable that all lots received are accurately checked to see that they come up to specification. For example, all the coal used at one large cotton mill and finishing plant is bought by competitive bid. In making its bid, the company supplying the coal must give the following: operating company, name of mine, producing district, seam, shipping point, railroad, size of coal, moisture, volatile, carbon, ash, sulfur, Btu as received, Btu dry, fusion, grindability, price per ton, freight rate (name of town where mill is located). The first lot of coal from a given source is carefully checked for the above points, and later shipments from the same source are spot checked. The steam plant keeps a continuous record of performance, and advises the PA.

Finishing plants almost always test for money value all shipments of dyestuffs received. At one dyehouse, swatches are dyed from vat and sulfur dyes, and compared visually to a standard. Vats and sulfurs are chemically too complex for the mill lab to analyze. Naphthols are checked for strength by a chemical test, and bases are checked for amine content.

Finishing plants agree that heavy chemicals (e.g., caustic soda) vary less from lot to lot than any other product used by the plant. The suppliers of these chemicals furnish an analysis with each carload, which is invariably accurate. One bleachery regularly tests about 10 of the 200 or so chemicals used. Compounded items (softeners, wetting agents, etc.) vary most from lot to lot, and are always checked by the lab. Other items are spot checked.

Some mills make careful tests before deciding on a supplier, or before switching suppliers. A large cotton mill recently finished a large-scale test of loom check straps. Samples were bought from all suppliers who regularly call on the mill, and a total of several hundred were used in the test, which took 18 months to complete. The check strap which showed up best in the tests had the highest initial cost, but its substantially longer life made its net cost the lowest.

The research department of one mill group is called on for what it terms "fire alarm" testing, i.e., when there is reason to suspect that an item is below par. All sorts of tests may be made, including chemical, metallurgical, etc. One difficulty frequently met is that there may be no standard test method available, and it may be impractical to run an actual production test. In such cases the research department has to devise its own test method. For example, a test method was recently developed for determining the strength of paper cores.

Comparison of costs and quality of different types of supplies is often made; for example, one mill purchasing department recently had some tests run on the cost of burlap vs cartons and other types of put-ups. Time studies are frequently made of the effect of changing from one type of supply to another. PA's often figure (either themselves or through one of the other mill departments) the cost of handling as well as the original cost of the supply.

Why Some Mills Do No Testing. "We've tried a formal quality control system, discarded it, and now depend on reports of our mill people [this PA buys for a mill group]. The reasons we discarded this system were that the lab is not the same as production, and that

different mills will use the same product differently and it will react differently. Even in the same mill the item may behave differently on different pieces of equipment, primarily because of differences in settings. Sometimes one shipment will be OK for all of the mills, the next shipment may not be satisfactory for some of them. Under these conditions, testing is too complex a job to do accurately."

Testing By Outside Agencies. Some mills use outside testing laboratories regularly for the testing of supplies; others use them occasionally. One mill with extensive testing and research facilities uses a consulting laboratory when its own labs are jammed up, as sometimes happens, or to get an independent check on its own results. Other mills submit samples of competitive products to an outside laboratory, and ask for a report on which would be the best buy for the mill.

Several mills are reported to have had samples of various special finishing agents analyzed by a firm of consulting chemists; they are then able to buy the components from a primary supplier, rather than from the compounder, with a considerable saving. The same is done with other textile chemicals.

Other products which mills reported they have had tested by outside organizations include dyestuffs, lubricants, leather belting, soaps and detergents, starch, shipping cartons, enzymes, and resins.

The outside agencies used for testing include independent testing laboratories, industry-sponsored research organizations, and textile schools. Information on certain products is sometimes obtained from government laboratories, although these laboratories of course do not do any testing of competitive products, as such, or make recommendations.

Relations Between the Purchasing Agent and the Mill

Needless to say, the conscientious purchasing agent is frequently in the mill to discuss operation, life, running qualities, etc., with the people who are actually using the supplies he purchases. One PA says, "The person doing the buying should never take it on himself to make all the decisions on the purchase of supplies, if a supervisor knows more about it than he does. The closer to the user you can get, the better."

The purchasing manual for a mill group states:

> The Purchasing Department shall rely on other individuals within the organization whose particular training and experience qualify them to advise and recommend concerning the procurement of a given article; for example, dyestuffs and chemicals.
>
> The Purchasing Department shall consult with the Traffic Department as to routing instructions and shall follow all instructions which are issued.
>
> The Purchasing Department shall follow the advice of the Credit Department on terms of sale of waste and obsolete items.

The PA for a large mill chain says that he keeps close personal contact with the mills in the group for which he buys. He has several buyers under him, each specializing in certain products and services, and these too are frequent visitors to the mills.

The PA for a centralized purchasing office serving a number of independent mills tries to visit each of the mills he serves, four or five times a year, even though all travel is at his own expense (he often manages to get a ride with a salesman).

Discussing Costs With Employees. Most PA's are reluctant to discuss the cost of purchased items with employees, although the reasons for this feeling are obscure. The PA at a New England mill said, "No costs are discussed with employees. Copies of purchase orders that find their way into production have the price column blacked in to prevent their learning the cost of anything. The principal reason is to prevent employees going to local suppliers and complaining that they do not get as low a price on an item as the mill does."

The PA at a southern mill does not tell employees the cost of items, but he does carefully go over the cost of supplies with the department head, who in turn passes along the information to such employees as in his judgment should have the information.

Another PA, with a mill group, feels similarly, that telling employees the cost of supplies is a supervisory function. He says, "In our own office we'll tell a wasteful employee that a form he has used for scrap cost 25¢, but we don't direct such a mill-wide policy."

The editorial sections of some employee publications have featured articles on the cost of items, how they can be saved, the effect on the employee's pay or job, etc. A good example of this type of cost reduction campaign was described in an article, "When Management Showed Costs, Employees Reduced Waste," in TEXTILE INDUSTRIES for October, 1954, pp. 119-121.

Buying Personal Items for Employees. "Yes, we buy personal items for our employees," says one PA, "and it's a headache." Most purchasing agents who are required to or agree to use their office to get discounts for employees from suppliers would add a fervent, "Amen, brother!" Personal purchasing can easily get out of hand, and a company with hundreds of employees, each desiring a discount, could keep several PA's busy doing nothing but buying trinkets, fishing tackle, and household goods for employees, especially at Christmas.

At one mill, the purchasing office does some personal buying for employees, but the PA tries to keep it at a minimum. The PA's secretary handles the job, and the invoices are not run through the company books, but the purchase order is on a company letterhead to take advantage of any discount. The transaction is between secretary, employee, and supplier.

Items are occasionally purchased for executives.

Even at mills which have a policy forbidding purchases for employees, the rule is often overlooked when a mill official asks that a personal item be purchased for him. As one PA put it, "I have to go along, but what he's doing is making the company pay part of what he saves by getting it 'wholesale.'"

BUYING PERSONAL ITEMS for employees is a PA's headache. Many PA's won't do it; it's illegal in some states.

Some mills encourage the PA to make purchases for employees, on the theory that it increases their pay without any cost to the mill. Actually, they probably do not realize their true costs for making such purchases; and, in any event, not all employees will take advantage of the opportunity to the same extent, so the "wage increase" is not fairly distributed.

It might also be mentioned that several states (Illinois, Michigan, Minnesota, Ohio, Pennsylvania, and Wisconsin) have "trade diversion laws," which prohibit the sale to employees of most items not manufactured by the employer, or not normally handled by him.

One mill president gives this advice to purchasing agents:

> Cut out all personal buying. I do not mean purchases of tools and equipment for plant workers, but I do mean purchases of items at wholesale that ought to be bought by individuals at retail. In the first place, it would be an utter impossibility to favor every employee in your plant—to do so would put an impossible burden on your department. Therefore, since you can't do it for all, do it for no one, and that includes the president of your company.
>
> In the second place, I do not think it is fair to the retail establishments in your community for you to use your purchasing power that way. Just remember that if every purchasing agent in town bought hardware, TV sets, etc., for every employee in his plant, the retail distribution system would be seriously affected.
>
> A great many purchasing agents think that they can create friendships with the superintendent and department heads by purchasing articles at wholesale for them. This is perhaps true, but I think that what little friendship is established in this way is more than offset by the jealousies aroused in the minds of other members of the organization who do not obtain these favors.
>
> I also feel that when and if it becomes known that no more purchases will be made for any individual and the reasons for this policy are explained, you will hear very little unfavorable comment.

Supply Room Practices

Basic inventory policies are usually decided by top management, but it is the responsibility of the PA to see that these policies are carried out, and in working out the details of controlling inventory, he is actually formulating policy himself. That there is a difference of opinion among PA's as to just what constitutes sound supply room and inventory procedures is well demonstrated by the fact that it is hard to find two mills with identical methods. They are, however, pretty well in agreement on broad policy.

Ordering Point. If there is one thing that PA's agree upon, it is that they want to keep their inventories at a minimum, consistent with keeping the mill running. But just where this safe minimum lies is another story, on which there appears to be little agreement.

The most widely accepted practice seems to be to keep on hand inventories of most supplies and equipment parts equal to a 30- to 90-day requirement. However, some small mills work on a hand-to-mouth basis and might almost be said to keep no inventory on hand (these are the mills which mark every order "Rush"), and in any mill some parts are stocked which may be used once in a couple of years.

Any textbook on purchasing defines the correct order quantity as the quantity at which order costs are equal to the carrying charges of the inventory.* Most mills, however, do not calculate ordering points and order quantities on the basis of a formal "correct order quantity;" these are decided on the basis solely of long experience.

These quotes from PA's in several types of mills show a wide variation in ordering practices:

Wool mill PA: "We operate a good stock room and have a perpetual inventory control, so that I know when I need certain materials. We have no set time limit for future buying. Our inventory and market conditions determine future buying."

Cotton mill PA: "We have established a maximum-minimum for every type of supply used by the mill, based on past experience with usage rates. The supply bins are checked regularly and flagged for the supply room clerk; he makes a list daily of supplies needed, and turns it in to me. The 'ahead' period on such items as picker sticks and check straps for looms is eight weeks. I make it a point to check the list carefully for critical items (those that would stop machinery if not on hand) and order them immediately."

PA for large cotton and synthetics mill group: "We have a meeting of top management at three-month intervals, at which ordering policies are set. We are currently operating on a three-month-ahead supply basis. Policy is explained to the mills, and requisitions are submitted on an ordering-point basis, with the three-month figure being taken as a maximum inventory."

PA at small filament weaving mill: "For raw materials, we check with a master production schedule, and allow shipping time plus a few days grace in designating delivery. We work from hand to mouth on seldom-used items, and keep a perpetual inventory for standard items, with an ordering

*Since this article is not intended as a textbook on purchasing, the reader should refer to appropriate sources for details on calculating "correct order quantities." See for example, "Industrial Purchasing," by Westing and Fine, published by John Wiley & Sons, Inc., 1955.

point of a few hundred pounds [of yarn]. Supplies for looms are kept in a storeroom stocked somewhat ahead, with no system; this is guided by foremen without too much trouble."

PA for synthetics spinner and weaver: "We have a perpetual inventory system on all supplies, including machine parts. For raw materials we have a scheduling division which determines three months requirements in advance; this is submitted to the purchasing department, which decides ordering quantities. For supplies, we have ticketed bins, with an ordering point designated on them. When the physical supply hits that point, the ticket is sent to the balance clerk, who checks it with the book records and passes it to the purchasing department for ordering."

Cotton mill PA: "We have installed a Kardex system in our supply room.* A day-to-day inventory is kept; each item is entered on a card which gives the location, bin number, price, vendor, and number of parts in the bin. Each day we subtract the number of parts issued from the number of parts on hand, and enter the new balance in the Kardex file. To guard against overbuying, an ordering point is set up on the card, and a small sliding celluloid film is used to indicate the number of parts on hand at all times in each bin. The ordering point is determined by the superintendent and overseers in each department, on the basis of experience."

Cotton mill PA: "We try to keep a minimum amount of parts in stock. When the stock of any part reaches the ordering point, we order the amount which will bring the stock back to the maximum allowable number (on a 30-day minimum and 90-day maximum, determined from previous experience). We have a red and white card system for each bin. When the red card is showing, the material is on order; when the supplies are received, the card is changed to white. The minimum and maximum are printed on the white card."

Size of Inventory. The question of inventory turnover was discussed recently at a supervisors' meeting. The mills taking part in the discussion varied widely in the number of times a year in which they have a turnover of inventory, ranging from twice a year to six times. During preparation of this article, TI's editors interviewed one PA who has an inventory turnover 12 times a year.

These figures are of course average for the whole inventory; some items may turn over twice a month, and others may require several years for a turnover.

One mill gave these factors as those which govern turnover of inventory:

1. Volume buying to take advantage of quantity prices.
2. Machinery changes.
3. Delivery time.
4. Overhauling periods, when more than a normal supply of replacement parts is used.
5. Judgment of management.

Following are some figures for value of inventory for three types of cotton mills:

1. $1 to $1.50 per spindle ($40 to $60 per loom)—print cloth.
2. 91¢ per spindle ($44 per loom)—sheeting.
3. $3 per spindle ($150 per loom)—duck.

Some PA's regularly weed out "dead" items from their inventory. Says one PA: "At the end of the fiscal year, if we have anything in stock that is not to be used within the next six months, we return it to the seller, at a discount, if he will accept it. Such items may be dyestuffs, for example; or loom parts, in which a change has been made and where the parts will not be used. We try not to buy too far ahead and stock up just because items are critical; if we start it, other mills will do the same, and we'll all be injured. We buy what we need, and we believe that our suppliers will take care of us in tough times.

"Our warehouse space is limited, and we can't take on too large an inventory. We even rent vacant space in town for storage of needed items, and we must carry additional insurance on these stocks."

Centralized vs Decentralized Purchasing

Since the vast majority of textile companies are one-mill enterprises, the question of centralized vs decentralized purchasing only comes up in regard to whether each department in the mill shall make its own purchases, or whether all purchases shall be made through one person. Most mills, of course, prefer the latter, although there are some mills remaining where each department makes its own purchases, subject to approval by the superintendent or plant manager.

About the only reason advanced for decentralized purchasing in the company with only one plant is that the department overseer knows best what he wants. Since the overseer obviously can get what he wants just as well through a purchasing agent, and the advantages of having one man handle all the mill's purchases are so great, there appears to be no justification at all for decentralized purchasing within a single plant.

Why Centralized Purchasing? There are more justifiable arguments pro and con on centralized purchasing vs decentralized purchasing when a company operates several mills, often at widely separated locations. Mill groups can be found which have no central purchasing office; some have a central purchasing office which makes all except emergency purchases for all the mills in the group; and some have a central purchasing office which buys items used by two or more mills, but where buyers at the individual mills do most of the purchasing, with policies directed by the central office.

The PA for a large mill group, with no purchasing agents at the individual mills, listed the following as the advantages of centralized purchasing (not necessarily in

*Installation of a similar supply room system was described in detail in "System Cut Supply Room Costs:" see TEXTILE INDUSTRIES for June, 1955, pp. 141-143.—Eds.

order of importance):

1. Coordination and consolidation of the purchase of *related* (not necessarily *identical* items). This offers the greatest opportunity for monetary savings.
2. Purchasing is a specialized profession, requiring trained personnel. A single mill often can't pay for qualified people.
3. Standardization of the textile product made at the various mills served.
4. The central purchasing office is a focus for mill experience with different products.
5. Introduction of new products to the mills served. This central office sends out a news letter at irregular intervals, as needed, advising on and giving details of new products. The paper may be issued as often as a couple of times a week, or as infrequently as once a month, as the PA deems advisable.
6. Fewer employees are required than if each mill maintained a separate purchasing office. This PA figures that a *minimum* of two employees is required for each mill with a purchasing office (a PA and a clerk-typist); actually most mills would require more. On the basis of only two employees per mill, this purchasing office functions with only about a third the personnel that would be required if each mill in the group did its own purchasing.
7. From the suppliers' viewpoint, the centralized arrangement is desirable (according to the PA), since it cuts down the number of individuals a salesman must call on, and his company has fewer orders to process.

Why Decentralized Purchasing? Proponents of purchasing by each individual plant in a mill group present an equally convincing case:

1. The mill manager is responsible for the efficient operation of his plant; he can't perform this function to the best of his ability if he does not have control over purchase of the materials he uses.
2. The purchasing agent must be paid wherever he is; it is best to have him right on the ground where his purchases are used, so that he can be as familiar as possible with plant conditions.
3. A bigger inventory is required when purchases are made centrally, because of the time lag in ordering through a central office.
4. A central office involves lots of waste motion and excessive paper work (exactly the same reason is sometimes advanced against decentralized purchasing).
5. Purchasing through a local office helps to build good will in the community where the mill is located.
6. A special case — bleacheries usually have sufficient volume on most items so that they already get the most favorable quantity price; there would be no additional saving in buying through a central office. For this reason, some bleacheries which are part of a group which has a central purchasing office still do most of their purchasing through a local PA.

Several mill groups try to obtain the advantages of both centralized and decentralized purchasing by having purchasing agents at each mill, coordinated by an over-all PA at the main office. The purchasing manual for one group with this set-up says that,

> Consideration shall be given to the following factors in determining whether certain materials should be purchased in a central department rather than localized at the plant:
> 1. Use of the commodity by several plants.
> 2. Value involved.
> 3. National character of sources of supply.

Comments Pro and Con. "We have centralized purchasing, and I don't really know whether I'm for or against it, never having had experience with decentralized purchasing. Some large concerns have switched back and forth between the two. At the individual mill level, opinion seems to be that they are in production and want to stay as close to that as possible without being involved in purchasing. Sometimes they are solicited by local suppliers; we give them a free hand in such matters, but by the same token if they don't want to be bothered all they have to do is say that they have no purchasing authority. There are some limitations to centralized purchasing: it can slow up deliveries, increase paper work, etc."

"We have a central purchasing office, but it is a service organization for the mills (in some cases the mills are a service organization for the purchasing office). If a mill requests an item by name, the purchasing office has no authority to change the requisition. The central purchasing office can recommend to the mill, but it can not force the mill to use an item it doesn't want."

Independent Purchasing Offices. Some individual mills have joined forces to purchase some of their supplies and equipment together, to get the benefits of quantity purchasing, and for other reasons. One such central purchasing office was founded about 45 years ago by several mills who wanted to pool their purchasing and keep salesmen away from the mill. The office is still going strong.

This central office buys only mill supplies (with a few exceptions for certain mills); it does not buy machinery or other capital equipment—that is a management function. Any mill is eligible to become a member, and payment is on the basis of a monthly rate per thousand spindles, no matter what the volume of purchases may be. One loom is considered to equal about 40 spindles.

Typical of supplies purchased are maintenance and repair items, cleaning equipment, picker sticks, heating and air conditioning equipment and parts, machine shop supplies, etc. Coal or other fuel is not usually purchased, although a few of the mills served do purchase coal or fuel oil through the central office.

All supplies are shipped directly to the mill; no goods are warehoused, and the office never purchases for its own account.

The reasons that mills purchase through this office are:

1. It is a time-saver for mill supervisors. As one man put it, "A superintendent's time is too valuable to spend talking to toilet paper salesmen."
2. It makes more sources of supply available to the mill. New companies come to this office first; they know that they can save time and effort by dealing with the representative of a large number of mills.
3. Items needed in a hurry can be obtained on a trade or repay-later basis, with the PA acting as coordinator.
4. It offers one source for all supplies.
5. It is a source of information on new products. Since the PA represents a large number of mills, one or more of them are likely to be using a new product, so a background of experience is available on the qualities of the product.
6. It is cheaper than hiring a purchasing agent. Mills pay according to their size.
7. Being part of a big purchasing set-up (suppliers give better service, etc.).
8. Money savings on group purchases and yearly agreements. This is, however, severely curtailed by the Robinson-Patman Act, since supplies are shipped to the individual mills, on separate purchase orders. The mill does know that it is purchasing supplies at as low a price as its competitors.
9. Suppliers can "unload" if over-

stocked, without having to go to a number of mills, thus can unload at a lower price.

10. The PA stands ready to fulfill unusual requests, and has a larger number of contacts than any one mill would be likely to have. For example, he recently rented a large tent for a mill for a religious revival.

11. Member mills are assisted in locating used machinery, or are advised on the fair market value of used machinery. For example, a member mill recently sent a couple of men to an auction at a defunct plant. The PA advised them as to what the going price was for the machinery in which they were interested.

The purchasing agent also seems to have become established as a source of information on any and all phases of the textile industry. He is regularly called on to help with the textile problems of suppliers, government agencies, the press, salesmen, and nonmember mills.

Member mills make purchases through this office either by submitting a requisition, in which case the PA has the purchase order typed up; or the order may be sent by the mill directly to the supplier, with a copy to the PA. Mills sometimes specify a particular supplier; if not, the PA uses his own discretion. Purchased materials go directly to the mill, with a copy of the invoice to the PA. More orders are placed by the mills directly with the supplier, rather than by requisition to the central purchasing office.

Although one of the principal reasons that mills join this group is to keep salesmen of nontechnical products away, these salesmen still call at those mills. When the PA is asked by a salesman if he should call at the mill, the PA is not authorized to advise him. He is told that the PA can't actually originate any orders, or get the mills to use suppliers with whom they don't want to do business.

The Purchasing Agent and the Salesman

Visitors to any of the plants of a certain medium-sized mill group are greeted by the following sign in the reception room:

To Our Visitors
You Are Always Welcome at
Blank Co.

While we cannot always do business with you, we will do our very best to give you a courteous and friendly hearing. If you are kept waiting you will know it is unavoidable, and if for any reason the time you are kept waiting seems unusually long ask our operator to again get in touch with the party that you wish to see. We want to give you the same friendly reception that our own salesmen like to get.

Until recently, one small cotton mill had this sign over the door to its office:

We kill every 10th salesman, and the 9th one just left.

These signs symbolize the two extremes of mill opinion on the way to conduct relations with suppliers and their representatives. Needless to say, the sign in the office at Blank Co. is more nearly typical of the average company's attitude (not so many years ago, the salesman would have more often run into the sentiment expressed by the second sign).

The PA's Open-Door Policy. One PA expressed the sentiments of most of his colleagues when he said, "I got my education listening to salesmen. I see all of them, whatever time they may call, and spend as much time as possible with them." On the other hand, at some mills the purchasing agent (when his purchasing function is incidental to his principal job of plant manager or superintendent) is about as accessible as the mountains of Tibet to the salesman making a routine call, unless he is a personal friend.

The PA for a large cotton mill, one of a chain, outlined his policy as follows: "There is no definite amount of time that I spend with any particular salesman, but I see them all. Much depends on what he is selling. Often a salesman is just a good will ambassador, once the line is introduced to the plant. These salesmen should drop around occasionally—'out of sight, out of mind,' you know. Salesmen's visits average 10 to 15 minutes each, and I spend about 75 per cent of my time seeing salesmen. If I'm tied up with a salesman, I go out to the reception room and tell the others waiting how long I'll be, then they can make other calls in the meantime if they wish. I realize that they consider their time just as valuable as I consider mine."

This PA sees a salesman even if he knows he can't give him an order. The mill has salesmen on the road, and the PA tries to remember this and treat other salesmen as he hopes his own salesmen will be treated. Every salesman leaves this plant feeling that he has been treated fairly, even if he didn't get an order. It is company policy.

The PA for a small filament weaving mill (he is also mill manager) modifies the "open-door" policy by trying to screen out salesmen from whom he knows he can't possibly buy anything. He sees all salesmen the first time or two that they call, but after that, if the two can't do any business, the PA is "tied up" when the salesman calls.

A PA who buys for two medium-sized cotton mills feels that the frequency with which salesmen should call at a given mill depends largely on the product they are selling. If they sell general mill supplies, in which case they may handle dozens of items, once a week is not too often. A salesman who handles one item, or a specialty line, should not call oftener than once a month, even if he already has the account and is servicing it. If the PA needs him between regular calls, he knows where to find him.

This PA has no hard and fast rules about the hours when salesmen may call, but there are hours when he *prefers* them to call. He works from 9 AM to 5:30 PM, and would prefer that salesmen make their calls between 10 and 12, and 2:30 and 4:30. He needs time to read his mail in the morning and assign office girls to work; in the afternoon he has to go over and sign his purchase orders. Sometimes salesmen are waiting for him when he arrives in the morning, and that throws off his schedule and disrupts the office.

At one large central purchasing office, interviews are strictly lim-

ited to the hours between 10 AM and 12 N, and 2:30 and 4:30 PM. All salesmen are seen as promptly as possible by one of the buyers, but only if they arrive between those hours.

Another PA thinks it is "a hell of a note" that some companies require that salesmen call only on certain days and at certain hours. It is a burden on the salesman to have to arrange his schedule to fit the PA's convenience. Furthermore, busy salesmen can't always arrange their schedule to fit into the PA's arbitrary assignment of visiting hours, and so they pass up the mill. The mill may lose out in these cases, if salesmen whom the PA should see fail to call.

This "open-door" PA does prefer that the salesman not be waiting in the morning when he arrives at the mill, and should not call so late that the PA has to stay overtime to sign his mail. Besides, at the end of a long day it is not to a salesman's advantage to try to present his pitch to a tired purchasing agent. This PA says that most salesmen are considerate about early and late calls.

A PA who is located in a city which is headquarters for large numbers of salesmen tries to restrict these salesmen to calls on Tuesdays and Thursdays. Out-of-town salesmen will be seen any time.

One finishing plant in a fairly isolated location restricts salesman interviews to two hours on each of two days of the week. Needless to say, salesmen think twice before going out of their way to schedule calls at this plant (which is the principal reason for the restriction).

A failing of many salesmen is staying too long, but PA's have their own ways of handling those who have worn out their welcome. Some PA's who don't wish to tell the salesman that the interview is ended, have a buzzer under their desk to that of their secretary. When the caller stays too long, the PA presses the button with his foot, signaling the secretary, who either calls in or comes in and advises of "a conference with the manager," and the PA excuses himself until the caller is gone. One PA hesitates to ask anyone to

leave; but once a salesman called who just wouldn't finish his spiel. The PA simply got up and walked out, without any explanation. The salesman finally left.

Most PA's will make an appointment to see a salesman at a specific time, if he must travel a long distance to see the PA. He then gets preference at that time over salesmen who just drop by on their regular calls.

One mill group purchasing office has prepared a small leaflet which emphasizes that the time of *both* salesman and PA is valuable. A copy is given to each salesman on his first call, and it reads:

A Message to All Salesmen

Our Policy Is:

1. To see you as soon as possible when you visit this office.
2. To use a minimum amount of your time.

Our Duty Is:

With your help—To save money for our Company.

Please:

1. Let us use a minimum amount of your time.
2. Tell us how we can save money with your products.
3. When requested to call at one of the mills, use the required but minimum time of the mill personnel.

Thank you.

A salesman says, "The amount of time the PA spends with you depends on how busy the man is. If a top-level executive is doing the buying, five minutes is a lot of time. In that case we have to spit out our story and get out. For this reason, some of these meetings are more conveniently held at lunch. Of course we cater a little bit more to the top man."

One salesman had his home office write to the president of a mill which restricted salesmen's visits to certain hours. He complained that it was difficult to fit the mill into his schedule of calls because of the particular hours that the PA conducted interviews. However, his complaint backfired. In this case, the supplier happens to be also a customer of the mill, so the mill's salesmen call on the supplier, as well as vice versa. When the supplier's salesman made his next call at the mill, the PA was waiting for him. "You've got a helluva nerve," the PA told him. "Did you know that *our* salesmen can only call on *your* purchasing agent during four hours of two days of the week, but *you* can come in to see *me* any day of the week from 10:30 to 3:30!" This salesman made no more mention of difficulty in scheduling his calls at that mill.

Salesmen in the Mill. Most salesmen prefer to see as many as possible of the mill personnel who are using their product. They know that the final say-so is often made by foremen or section men, so they like to get into the mill to sell as far "down the line" as possible. Some of them make it—some of them don't.

Some PA's approve of salesmen going into the mill to talk with supervisors—after first clearing with the purchasing office—on the theory that there's nothing like firsthand information, and talking with competent salesmen helps the supervisor to do a better job. Some PA's admit that the superintendent and overseers have a better technical knowledge of the products they use than does the PA. Other PA's will not send the salesman to the mill to tell his story, but will ask the superintendent or department head to come to the purchasing office.

Most mills don't want the salesman talking to anyone below the level of overseer. From the salesman's viewpoint, the secondhand should also know as much as possible about the product, but he must get his information from advertisements and articles in the textile magazines.

At one mill, suppliers even have a difficult time getting across their story to overseers and secondhands through the textile magazines. The president of the mill wrote to TI asking if he could buy up all the subscriptions held by

PRIMER FOR SALESMEN

How To Antagonize Purchasing Agents

CALL AT INOPPORTUNE TIMES
PUT ON THE PRESSURE
PURCH
STAY TOO LONG
YAK YAK YAK YAK YAK YAK YAK YAK YAK
KNOW ALL ABOUT THE P.A.'S AFFAIRS
PERSONAL
GO OVER THE P.A.'S HEAD
PURCHASING
MANAGER
PROMISE ANYTHING TO GET AN ORDER
... and we can deliver YESTERDAY afternoon!
DROP IN A FEW BIG NAMES
...as I wuz telling Spencer, Roger, an' Royal the other evening....
RUN DOWN YOUR COMPETITORS
their widgets cause filling bars!
TELL A HARD LUCK STORY
ERIC

his supervisors—he says that he has a better chance of keeping them if they don't know what's going on in the rest of the industry.

Other mills have a firm policy that no salesmen are to go inside the mill, and so must do all their talking in the purchasing office or reception room. Some mills have sent out letters to suppliers, advising them not to call on overseers, making the cryptic comment, "Overseers have something else to do besides talking to salesmen."

For a long time one mill permitted salesmen to go into the plant to visit key men and department heads. So many were going into the mill without the knowledge of the PA, and were taking up so much of the overseers' time by staying too long, that the mill clamped down on the practice and now requires all salesmen to call on the PA. If the superintendent or overseer wants a technical salesman to go into the mill, the invitation is extended by the PA. Otherwise the PA may not see the overseer. A pass is now needed to get in the mill gate. The superintendent and overseers like the system, and so do many of the salesmen (according to the PA). The PA objects to a salesman bypassing the system by long distance telephone; the smart salesman won't do it.

Some PA's feel that overseers, not having much contact with salesmen, are too gullible, and that any glib salesman can sell them almost anything. In most mills the overseer has no purchasing au-

thority, and often the PA has good reason for not purchasing from a salesman who may have made a favorable impression in the mill. A commitment by the overseer which is overridden by the PA may cause embarrassment to the overseer and bad feeling between him and the PA.

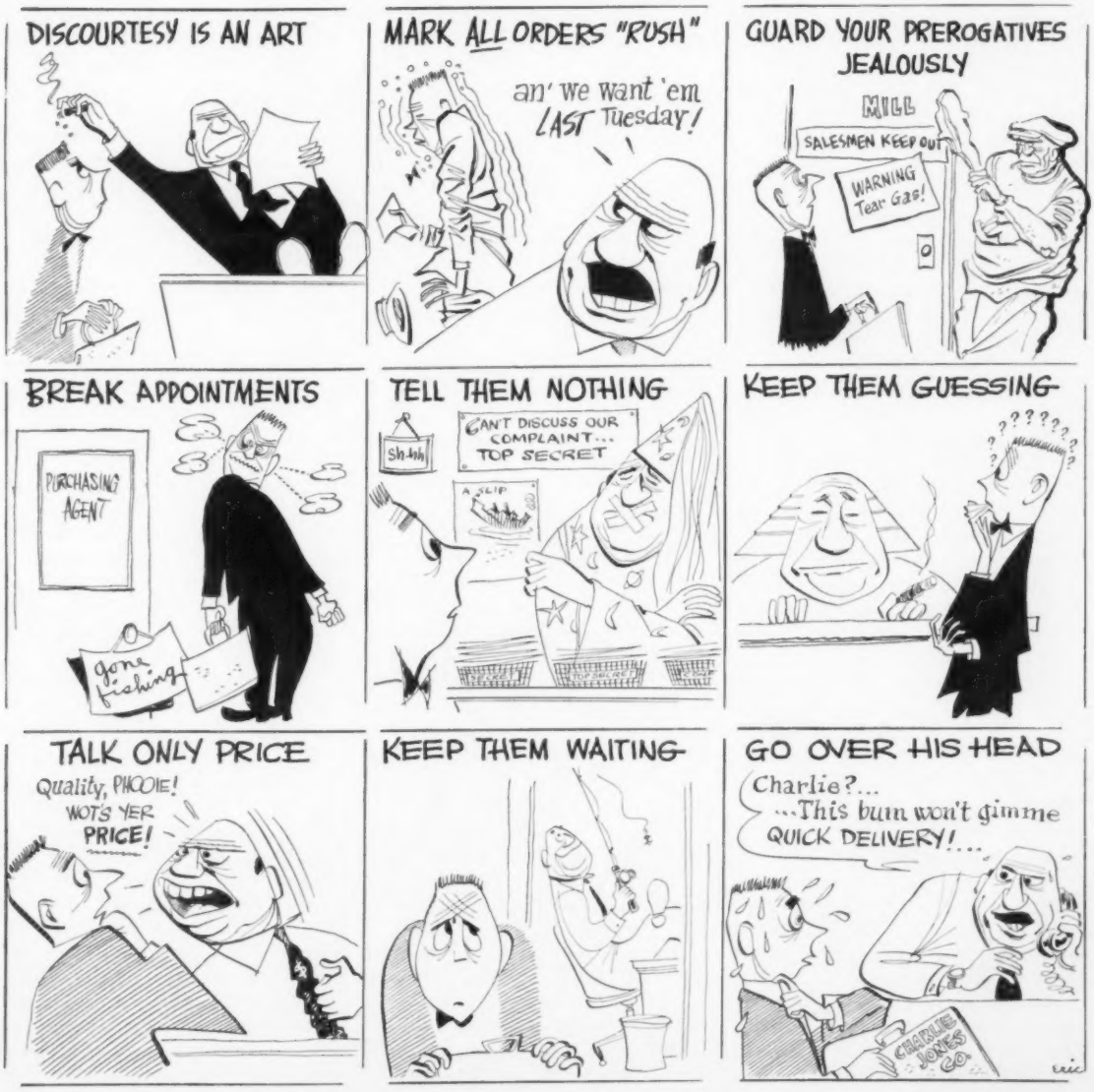
One mill has eleven slashers, with nine different kinds of controls on them. This is the result of salesmen talking with the overseer, who had authority to purchase (there is now a PA). Each salesman sold a different control, and the overseer, not accustomed to talking with salesmen and not realizing the benefits of standardization, bought from all.

At one large mill group, salesmen of major machinery and other technical products are welcome to visit the mills, after clearing with the PA. The PA feels that mill supervision will learn something from technically trained salesmen, will get the benefit of service, and should have a personal relationship with important suppliers. Salesmen for general mill supplies are not allowed in the mill, however. The PA feels that nontechnical salesmen would only be wasting the supervisor's time.

When one of the mills in this group wants to see a specific salesman, arrangements must be made through the central purchasing office. The buyer of the product involved (this purchasing office has several buyers, each specializing in a certain product or service) may have the answer to the question the mill wants to ask; if not,

PRIMER FOR PURCHASING AGENTS

How To Antagonize Salesmen



the salesman is contacted. This procedure keeps the PA informed of the mills' interests, as well as saving time for mill supervision.

The gullibility of some overseers was described by a PA: "One of our department heads rushed into my office the other day, complaining that I had ruined his whole department by changing from one salesman's product to another. Actually, we had been using the new product for a year; the overseer didn't even notice it until the salesman brought it to his attention."

Some PA's rationalize their refusal to let salesmen in the mill as follows: "We purchasing agents are specialists in our line; we're accustomed to listening to salesmen and weighing the pros and cons of a product before making a purchase. On the other hand, some department heads see few salesmen, and so can be sold easily—they're sitting ducks for a smooth-tongued salesman. And another thing, a cigar or a bottle of whiskey can cause the purchase of a lot of stuff the mill doesn't need. Some of the folks in the mill think we're on a gravy train as far as gifts go, and they want some of the gravy. They're always asking me to save something for them—pencils, rulers, paper weights, anything so long as it's free."

It is said of one crotchety PA that he wouldn't let his own mother in the mill. He says, "We don't let any salesmen in our mill. There is no reason for a salesman to go into the plant, and some of them talk about what they see. We feel that salesmen know very little about textile manufacturing or even their own specialty, they have nothing to offer the mill in the way of experience—some of them don't even know where a checkstrap goes. If the salesman could get into the mill, all he would do would be to snoop around and take up time."

One salesman went into a mill and saw one of the overseers before reporting to the PA. He then came by the PA's office to report that the overseer said he needed the item. The PA had no reason to doubt the salesman, so he placed the order. When the item arrived, the PA found that the salesman had misrepresented the case, and that the overseer had not ordered it. It was returned, and no further business was done with the supplier.

Tip to salesmen: passing along confidential information is a risky business. One PA says, "If a salesman comes in and tells us something confidential that he picked up in another mill, we listen and say nothing. You may be sure that he doesn't get into our mill and get a chance to do the same to us."

The PA and His Hobbies. Although the sales manuals say that it is wise to know your prospect — his hobbies and his desires—often this can work adversely for the salesman. He may know that the PA likes certain sports and has certain hobbies; it is an easy thing to find out. But salesmen should realize that other salesmen also know about the buyer's hobbies, and often press the same point. When a purchasing agent is seeing from five to twenty salesmen a day, most of whom know his hobbies, he soon becomes fed up having each interview introduced with, "What'd you think of the game?" "Did you get any fish last weekend?" "How are you betting on the fight?"

Salesmen could think of a fresh approach occasionally.

The PA knows that the salesman is working for an "in" by using his hobbies, and it doesn't increase his respect for the salesman's methods. By the time the PA has answered the same question a dozen times, he is about ready to give up his hobbies.

When a salesman brings up the subject of hobbies to one PA, he simply says, "We won't talk about hobbies, let's get on with the work," or "You didn't come to talk about hobbies."

Note: When the PA shuffles papers—get out!

Some PA's have hobbies in which the salesman may take part, sometimes unknowingly or even unwillingly. One PA has on his desk a celluloid container which is full of ball bearings. Salesmen, seeing the clear container and balls, often get curious and pick it up. Ball bearings clatter all over the desk and floor, because the container has no bottom. The PA has fun with the salesmen over it; however, reactions differ. For some it eases the tension; others are embarrassed; others get mad. One salesman said he wouldn't "pick up a damned one," and walked out.

Just to break the monotony of the day, PA's have been known to let a salesman listen to the sales pitch of a competitor. The PA may even question him to draw him out, or ask directly what he thinks of the other company's product. The rougher the salesman gets, the more one PA enjoys it. Moral: It's wise to know who's listening, rarely wise to knock a competitor.

"Hard Luck" Stories. Salesmen sometimes come in to the PA with a hard-luck story as their sales pitch—meeting a quota, getting a raise, need money to feed the kids, a sales contest, etc. They usually get nowhere.

PA's have little sympathy for the old working-my-way-through-college routine, and it rarely if ever wins a sale. A salesman came in to one PA recently and said that he was in a sales contest, with a trip to Cuba as the prize. The PA couldn't conceivably care less whether that salesman or any other wins a trip to Outer Mongolia, or anywhere else, although he says that he wishes that salesmen who present their case on other than a business basis would be sent somewhere—anywhere but to his office.

During the Depression, hard-luck stories were frequent. Some salesmen used to plead for an order "or I'll get fired." Some used to ask the purchasing agent to pay for an order then and there, so they would have enough money to buy gas to get to the next town.

Entertainment. Most mills have a more or less well formed policy, not usually written, governing the acceptance of gifts and entertainment by mill personnel from suppliers. One company does spell it out in its purchasing manual: "The Company does not tolerate

the acceptance or solicitation of immoderate entertainment, significant gifts, or any loans from vendors or their representatives." The catch of course lies in what is construed to be "immoderate," or "significant."

The buying of a lunch or dinner by a salesman for a mill man is an accepted practice, and there is no doubt that gifts which contain advertising matter—such as pencils, paper weights, and memo pads—are perfectly legitimate. Many PA's feel that the acceptance of anything more gives at least the appearance of putting them under an obligation to the giver.

Some PA's will not accept so much as a pencil from suppliers with whom they do business, they don't want to take a chance that they will be influenced, even subconsciously, in making purchases for their company. Other PA's have more elastic standards; one buyer said that he did not accept "obvious" entertainment, but has no objection to lunch, dinner, a show, or a sporting trip to a company lodge. He would not accept plane tickets or other transportation to the lodge nor a cruise on a supplier's yacht.

Of another PA it is said that, if you see him drinking a Coke with a salesman, you know that he bought his own or both Cokes. One small mill applies this philosophy in all its dealings with suppliers. When the PA has lunch with a supplier, he picks up both checks; at Christmas time, small gifts are sent to salesmen for major suppliers.

Salesmen should be wary in giving gifts to mill men; some are insulted by what they consider an attempt to compromise their integrity. One PA gave an order to a salesman, who later returned and deposited a bottle of whiskey on the PA's desk. The PA told him, "I drink a high-priced whiskey, a special kind, my tastes are delicate. I ain't mad! But take your whiskey and run along!"

Another salesman failed completely in knowing his man. He was delivering bottles of liquor to some of his customers at Christmas, and visited a certain mill man, depositing several bottles of choice stuff on the mill man's desk. It happens that this mill man is an officer in his church, and is bitterly opposed to liquor in any form. He invited the salesman and his whiskey out of the office and told him not to visit the mill again; the salesman's company got no further business at that mill.

Says the PA for a large mill group, "Going to lunch with a salesman can be fruitful if the man is high enough in his own organization to teach us something or to expedite our business with his company. However, entertainment just for the sake of entertainment,

NOT ALL PA'S want to be entertained.

especially at night, is not appealing to me. I want no part of it. If entertainment is on a limited scale, and is handled properly, it helps us to get to know our supplier better. We rarely, if ever, get price advantages in this way, but it pays off in other ways. Our staff is instructed to pay for its own share of lunches with salesmen."

Some PA's who normally frown on commercial entertainment will attend parties given by suppliers at trade shows and conventions, where the mill man is just one of the group. Many mill men prefer the arrangement now used at some meetings, where all the suppliers in attendance contribute to the costs and no one supplier is singled out as the host. The supplier, of course, may believe that this dilutes the credit he gets for entertaining the mill men.

One PA who will not accept any form of gift whatsoever feels that salesmen are imposed upon, and that too many people expect to get some kind of gift. This PA believes in salesmen, that they should not be ashamed to be salesmen, and should sell without giving gifts.

Some suppliers are determined to do something about the practice of excessive entertainment and extravagant gifts, even though the buyer inevitably pays their cost. One supplier now gives inexpensive Christmas gifts to its own suppliers, rather than to its customers. The main plant of this supplier is in an area famous for a specialty agricultural product. The company each year sends a few cases of this product to each of its suppliers, for distribution among those it has worked with during the year.

Another supplier has given up the practice of sending Christmas gifts to its customers, but has retained much of the good will built up by gifts. This company has taken the money that it would have spent on gifts, and has put it into a scholarship fund for deserving students in the areas served by the supplier. The scholarships enable the winners to study in the field represented by the supplier's business.

Some mills have gotten around the problem of gifts at Christmas time by pooling all those received and distributing them either by chance or in some other impartial way among employees of the purchasing department or the whole office staff. This not only forestalls any jealousy that might develop because of buyers receiving large numbers of gifts, but also obscures the identity of the supplier, so that there is little likelihood of the gifts influencing the mill's purchasing.

Bribery and "Kickbacks." Many younger PA's have never been offered a bribe or "kickback," although not so many years ago it was a notorious practice among certain types of mills and with certain types of suppliers, particularly where overseers were allowed to do the buying for their own departments. Today outright commercial bribery is illegal in most states, and has nearly disappeared (the editors are not naive enough to say that it has *entirely* disappeared).

The closest that the PA for one cotton mill has come to being offered a bribe occurred when a

stranger to the textile field bid a large sum for some obsolete equipment the mill was selling. He did not remove the equipment from the premises for a long time, so the PA called to ask him about it. He then cut his bid nearly in half, and offered the PA a fee for "handling the equipment." In reality, of course, if the PA had accepted he would have been making a personal gain at the expense of the mill. No further business was conducted with the dealer.

Another PA relates that years ago it was common for a salesman to tell a mill man that he would raise his prices by, say, 25 per cent, the 25 per cent to be returned to the mill man as a kickback. This rarely happens now. The nearest thing to a bribe this PA has been offered occurred when a salesman told his story, and then asked the PA if he needed a new suit. That salesman hasn't been back.

One southern PA notes a form of "bribery" that is of the highest type. A salesman gets with an overseer, compliments him on the running of his department, builds him up, and tells him that he wants to get his product into that overseer's department because he is a leader in the industry, and everyone looks up to him. Although the salesman will tell the next overseer the same thing, the overseer is so inflated that he promises to use the salesman's product—and then is most unhappy when the PA (for logical reasons) can't give him what he wants.

The Purchasing Agent and the Salesman Attend a Convention

People who own, operate, or work in a textile mill have numerous conventions, or attend meetings and trade shows. They range from the national, regional, and sectional, to the local, and are complemented by the horizontal affairs which take in several entirely different industries. Both mill men and suppliers attend many of them; some are strictly for mill men.

The supplier's representative goes to a convention or meeting to learn more about the industry he is serving, and to make contacts with mill men buyers or persons in the textile industry who influence buying. Mill men go to learn more about their industry, to contact other mill men, and for pleasure; they don't go to buy equipment and supplies.

When a salesman or a supplier goes to a convention for mill men, he is treated in one of two ways, depending on the group of mill men: As a guest and a full participant in all activities—or he is merely tolerated, possibly ignored.

The following observations regarding the mill man-supplier relationship at meetings, conventions, or trade shows, come from both. Although the observations pertain to the unusual rather than the normal behavior, the comments are presented so that both may understand and respect the position of each.

Mill Men Criticize Some Salesmen at Conventions. Some salesmen go to conventions to build up contacts, but they do not attend the business meetings; mill men prefer that they attend.

Some fail to pay the required registration or associate membership fee; they act as if the convention were created for their personal convenience.

Some try to hold their own meeting or cocktail hour at the same time as that of a convention function.

Some who consider themselves "kings" in their own organization or supplier industry, act as if they are kings at a mill man's convention; they should remember that they are there by the grace of the mill men.

Some try to sell and close orders at conventions; mill men prefer that they just make contacts. The mill men do want to know the supplier with whom their mills do business, although the mill man himself does not see the supplier's representative at the mill.

Some salesmen try to get better rooms than the mill men, often using devious means to do so.

Some think that the mill man's convention should be nothing but golf and beverage; this is a reflection on the mill men who go for business purposes.

Some salesmen become boisterous and think they are the life of the convention.

Both salesmen and mill men feel that the unreasonable behavior of the few reflects on the many.

Salesmen Criticize Some Mill Men at Conventions. Some mill men or buyers think that the salesman should pay the mill man's registration fee just because they are next to each other in the registration line.

Some mill men embarass the salesman by commenting about "too many salesmen," so that the salesman can overhear the remark.

Some think that the salesman should lose to the mill man in the games of competition or sport—but by a very close score.

Some are continually reminding the salesman that he can utilize his expense account for drinks, tips, and entertainment.

Some mill men tip off their wives that the salesman has a product (or can get one) that is used in the home; she applies the pressure so that the salesman can hardly refuse to promise delivery—but the wife doesn't expect to receive an invoice along with the goods.

Some are obvious in their discourtesy to the salesman, because they think their accounts are so valuable as to justify discourtesy.

Some mill men think the salesman should give up his room in the hotel to them, if they arrive late and unannounced.

Some continually throw it up to the salesman that they buy his product; theoretically, the salesman is already posted on that point.

Some mill men impose on a salesman by gathering a crowd and inviting the salesman to be the host.

Some mill men think that it is the duty of the salesman to deliver them to the train, airport, or final destination, regardless of the mill man's condition.

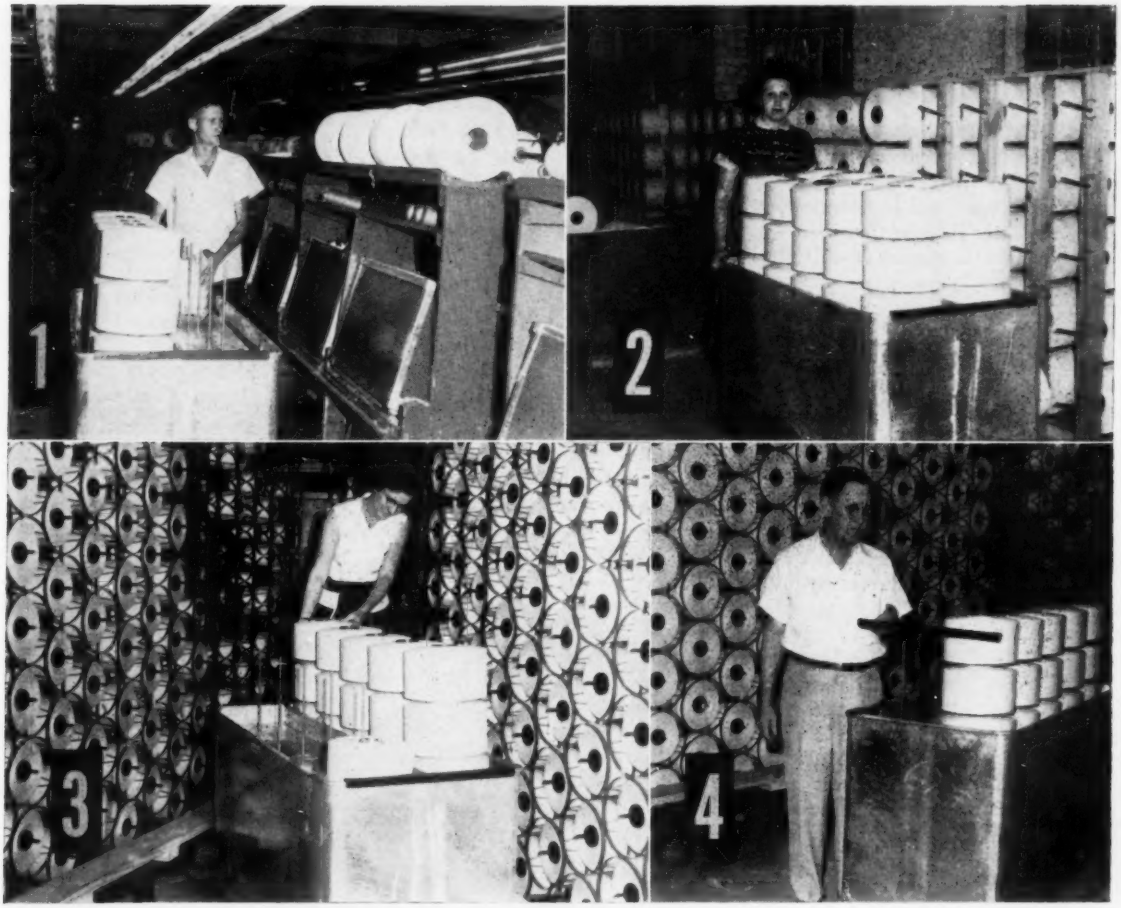
Do You Disagree?

The editors recognize that many of the statements expressed in this article are subject to differences of opinion — sometimes very strongly held opinion. All the statements were made by purchasing agents or other mill men, or by suppliers or their representatives, or were paraphrased from remarks made by them.

Obviously, all shades of opinion can not be represented in a single article. If you disagree with any of the statements made, or if you think that the editors have not given enough weight to any of the aspects of purchasing for the textile industry, we will be glad to hear from you.

The most interesting letters received, if not libelous or scandalous, will be printed in an early issue, with or without your name, as you choose.

Special Truck Simplifies Large-Package Spooling and Warping



TO FACILITATE handling of yarn from Barber-Colman Type D large-package spoolers to warpers in the No. 4 plant of Russell Mfg. Co. in Alexander City, Ala., the combination cheese storage and creeling truck shown in the accompanying illustrations was developed.

Designed and produced by personnel of Fisher Mfg. Co., materials handling equipment manufacturer, based upon information furnished and suggestions made by Russell operating executives, including research and development engineer Eugene Gwaltney and plant superintendent G. L. Vernon, the floating bottom truck holds 60 of the big cheeses which may weigh as much as six pounds each.

In **Photo 1** the operative is removing full cheeses from the combination yarn and cheese storage rack located beside a Type D spooler and placing them onto the metal spindles in the truck.

(Note detail of construction of the yarn storage racks in this mill. Above the two rows of yarn boxes is a shelf for empty cheese cores. The top of the rack is designed to hold the full cheeses as they are doffed from the spooler. Spooler operatives place the cheeses there to await removal either for immediate use in the warper creels or storage as shown in these photos.)

The ease with which the truck may be rolled and visibility afforded the operative while pushing the truck loaded with yarn are indicated in **Photo 2** which was made in the yarn storage area.

In **Photo 3** the warper creel is being loaded by an operative standing on the platform provided. Note how easy it is to take cheeses from the truck and place them on spindles in the creel. The floating bottom design minimizes operator fatigue.

Another feature of the truck is the provision for supporting cloth covers which keep lint and dust off the yarn when it is necessary

to store the cheeses for long periods of time. In **Photo 4** Mr. Vernon shows the cloth holding arm in raised position to receive the cover; of course, this is lowered out of the way when truck is in use (top of the arm can be seen resting on the body of the truck in the other three photos).

℞ for 3-D Fabric—Dip in Boiling Water

A FABRIC which is woven flat but becomes permanently three dimensional when dipped in boiling water has been introduced by United States Rubber Co.

Woven on a regular loom with polyethylene yarn and conventional textile fibers, the fabric, called Trilok, forms puffs when the polyethylene is shrunk by boiling water in a matter of seconds. The polyethylene, which runs lengthwise in the material, can shrink as much as 55 per cent, while the fabric may be from 1/64th to 1 inch thick.

Its first use, according to William E. Clark, vice-president and general manager of the company's textile division, will be as an automotive and furniture upholstery fabric where the cushioning effect of its three dimensional structure offers unusual comfort and free circulation of air between the person and the seat.

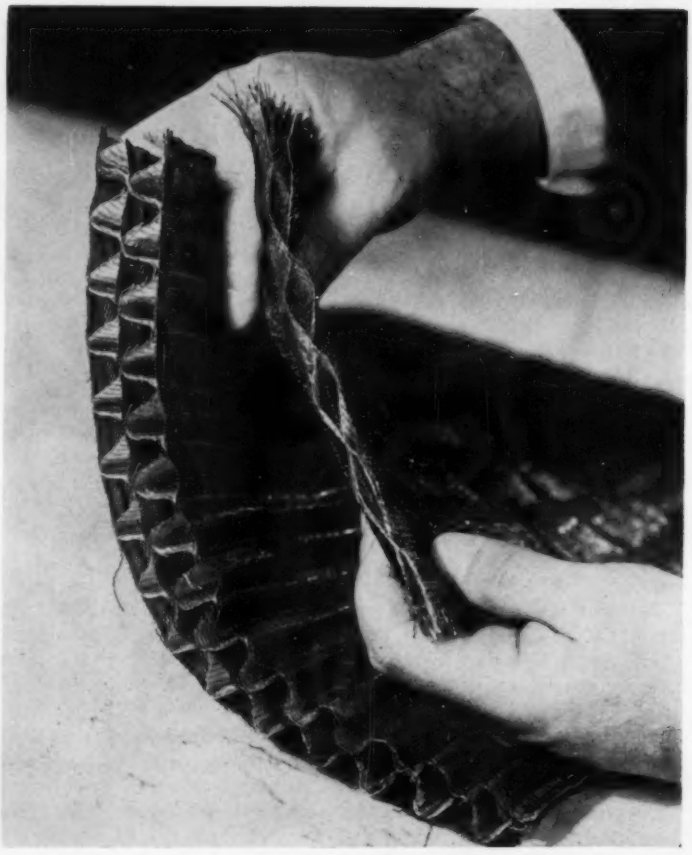
"The fabric," Mr. Clark said, "has the advantage of not being totally compressible under a person's weight and will not collapse or flatten out under long periods of compression.

"Trilok will appear in some autos during the 1956 model year. In field tests on the drivers' seats of taxicabs, the fabric has given wear equivalent to 15 years of everyday usage or longer than the life of the car. The material is resilient and contains enough stretch to make fitting seat contours an easy matter."

Other applications, the U. S. Rubber executive said, are draperies, bedspreads, and carpeting. As carpet, the rug and its undercushion would be combined in one piece because of the three dimensional structure of the material. This would make cleaning and laundering easy because of the air spaces in the material and the use of yarns that don't hold water, he declared.

Mr. Clark said many new designs can be produced by the Trilok method on a regular loom. In a great number of cases, he added, the effects achieved by the Jacquard loom could not only be duplicated now but improved, and without the need of supporting the raised portions of the fabric with

DIPPED IN BOILING WATER, Trilok fabric becomes permanently three dimensional, although it is woven flat on a regular loom. Note effect produced by polyethylene yarns shrinking in bottom half of sample that had been immersed.



BIG DIFFERENCE between polyethylene backed fabric before (right) and after (left) finishing is shown here. The corrugations formed by shrinking the prestretched polyethylene are strong, resilient, and permanent.

stuffer yarns.

"In the case of theatre seats and general upholstery, moldability of this new fabric will save tailoring, give permanent shape, and eliminate wrinkles," Mr. Clark declared, "because the fabric can be fitted over a mold after softening the polyethylene with heat. For complicated shapes, shrinkable yarns can be used in two directions."

A piece of the new material in which the polyethylene is allowed full shrinkage will draw up to less than half the length to which it was woven. Unless polyethylene is also used in the filling to achieve special effects, the fabric does not shrink appreciably more in width than conventional fabrics do in normal finishing.

The conventional yarns, which can be cotton, wool, silk, rayon, nylon, mohair, etc., or combinations of these, run both lengthwise and crossways (warp and filling) in the fabric. Since their maximum shrinkage, from 8 to 12 per cent, is negligible compared to that of the polyethylene, they "buckle" when the polyethylene shrinks.

However, they buckle or puff in a design determined by the weaving pattern of the material. Or, rather, in a manner set by the pattern in which they were "locked" to the polyethylene in the loom. Hence the name of the fabric, the first such material having been three separate fabrics woven together. Trilok can be produced as a single, double or triple fabric.

The fabric is being produced at the company's Winnsboro, S. C., mills under a patent secured by U. S. Rubber.

Short Range Prospects Promising, Says ACMI President

TEXTILE industry prospects for 1956 look "promising" and the stage is set for an era of stable, profitable operation more in keeping with the rest of the national economy, provided that the unfair competition from low-wage imports can be controlled, reports A. K. Winget of Albemarle, N. C., president of the American Cotton Manufacturers Institute.

In a year-end statement, the top executive of the industry's central organization noted "encouraging signs" of expanding sales during the coming months. He pointed out that industry productive facilities are in better balance with demand for goods, following several years of adjustment.

Therefore, the short range outlook appears favorable on the whole, Mr. Winget said, but the long-range situation is filled with uncertainty as a result of the threat posed by the rapidly increasing inflow of foreign-made cloth and apparel.

Efforts now underway to bring foreign imports under control will, if successful, give impetus to additional industry growth, better domestic markets for cotton and other American-produced fibers, and mill technological advances of benefit to the total consuming public, in Mr. Winget's opinion.

Full text of his statement follows:

"As 1955 came to a close, the elements seemed to be present within the textile industry and the national economy for forward movement during the new year on a sound and stable basis, in terms of regained and steady employment, greater consumption of the farmer's product, a more reasonable return on investment, and improved goods for consumers.

"The prospects ahead are promising on the whole. Provided the problems created by cheap-labor imports from abroad of fabrics and apparel can be resolved, the U. S. textile industry may well be ready for a long-awaited comeback, or ready to catch up with the nation's economic pace.

"The last few months have seen a definite step-up in the tempo of mill activity, a quickening of orders in most categories, and a sounder ratio between mill stocks and unfilled orders. Distribution channels are normal. The price structure, while still lagging, is considered stronger than at this time a year ago, due to slightly improved mill margins.

"U. S. mills consume over 98 per cent American-grown cotton. The 1953-54 crop year saw a million bale drop in U. S. consumption but in the recent crop year that ended July 31, mills of this country consumed 8,835,000 bales, an increase of three per cent. This upward trend continued in the latter part of the calendar year 1955.

"Final production figures for the mill industry will show an increase in 1955 over 1954. Broad woven goods production during the first three quarters, when projected to an annual basis, amounts to 9.86 billion yards compared with 1954 output of 9.76 billion yards.

"Stocks of cotton broad woven goods at the end of October were equivalent to a 3.0 weeks' supply as against a 3.2 weeks' supply in September. Backlog of unfilled orders at the close of September was equivalent to 11.08 weeks' production.

"There are encouraging signs that the industry has reached a point where, after a good deal of belt-tightening, sacrifice, and liquidation, productive capacity seems in better balance than in many years with the potential demand of a growing population which has a relatively high purchasing power.

"This outlook is beclouded, however, by two interrelated factors—declining export sales and sensationally increased imports from overseas.

"The dropping off in exports occurs simultaneously with the sharp rise in imports. In 1951 U. S. mills produced 802 million yards of cotton cloth alone for foreign sale. By 1954 this had declined to 604 million yards. The 1955 total, projected on the basis of the first nine months, will be approximately 550 million, thus continuing the downtrend.

"Imports, meanwhile, shot up during 1955 beyond all expectation. Orders booked by American buyers in the single country of Japan during the one month of August hit 52 million yards, indicative of the sharp uptrend in imports of both cloth yardage and finished goods such as sheets, pillowcases, and apparel.

"The price-and-volume impact of such importations, creating uncertainty in American markets, in price levels and in mill operations, is so severe as to make firm forward plans and progress impossible. Market requirements cannot be appraised with any degree of confidence when the volume and prices of foreign offerings are unpredictable.

"Steps now being taken by Japan on her own initiative to control textile shipments to the United States may open the way for remedial action which should more properly and more logically be instituted by our own government. Once textile import controls are established—equitable alike to foreign countries and the sub-divisions or segments of the American industry—the U. S. industry can plan ahead in the knowledge that there is a limit to which foreign

goods entering this country can reach.

"Textile mills expended some $350 millions in 1955 for new plants and equipment, a slight increase over 1954 but unquestionably an amount smaller than required for orderly rehabilitation or renewal of facilities, provided a reasonable solution of the import problem had given confidence for future physical expansion.

"Meanwhile, research, exploration of new products for new markets, and efforts to streamline sales and distribution methods have been pushed harder. Retail prices of textile and apparel goods continue to be relatively lower than those of any other major manufacturing industry.

"As the chief outlet, and a growing outlet, for U. S.-grown cotton, the mill industry feels a great responsibility in contributing all its efforts toward keeping the cotton producing industry healthy. There is growing recognition of the fact that the cotton economy of the United States has no firm and enduring basis on which to stand other than the preservation and constant development of the American market, especially in view of the shrinking overseas outlets for U. S. raw cotton and cotton goods alike.

"During 1956, therefore, renewed efforts can be expected of the textile industry to provide consumers a larger supply, greater variety, wider range and better average quality of goods than are attainable anywhere else in the world, at prices which relative to wages and operating costs, are the world's lowest."

How Ray-Ser Dyes Stretch Yarns

Ray-Ser Dyeing Co., Chattanooga, Tenn., has developed a method for package dyeing stretch nylon yarns which retains most of the crimp. The yarn is dyed in the form of a "muff," on regular package dyeing equipment.

STAFF PREPARED
EXCLUSIVE

A MAJOR problem for the user of stretch nylon yarns has been that of ready availability of desired colors without the necessity of an excessively large inventory, because of the complicated throwing and dyeing procedures used in making these yarns.

Most throwsters do not have dyeing equipment, and most dyers do not have throwing equipment, so until recently there was considerable handling and rehandling, shipping and reshipping, between the grey yarn and the dyed stretch yarn.

Yarn was received by the throwster with "zero" twist (actually ½ to ¾ tpi), but since most dyers were unable to handle this low a twist, the throwster first put in 5 to 10 tpi before sending the yarn to be dyed. If the dyer's equipment required it, the throwster backwound the yarn onto cones before shipping.

The dyer wound the yarn onto dye tubes, dyed it, and returned it to the throwster. The throwster then put the yarn on a redraw, wound it onto uptwister bobbins, and then put in the remaining 65 tpi (for 70/2 yarn). The yarn was then set, twist removed, and one end of S twist and one end of Z twist were plied together.

This procedure, or the variations used in the industry, usually took eight to ten weeks, costs were high, and there was always the danger of mixing S and Z twists.

It was not practical to package-dye finished stretch yarn, because a great deal of the crimp was lost in dyeing; there was up to 90 per cent loss in some parts of the package.

Zero-Twist Yarn. A step toward reducing the excessive handling of stretch nylon yarn came when some dyers learned how to dye yarn with zero twist (see TEXTILE INDUSTRIES for August, 1954, pp. 100-102).

This eliminated the step of inserting 5 to 10 tpi before sending the yarn to the dyer, although this amount of twist had of course to be added later.

Dyeing Knit Tubing. In another method used by some mills, the finished stretch yarn is knitted into tubing, dyed, and then unraveled.

According to Ernest Caswell*, "[This method] may appear cumbersome and expensive, although the mills claim that it is as economical as having the yarn commission dyed. The yarn is knitted into a long tube on a large-size ribber and then looped into hanks. It is then dyed in the regular hosiery dyeing machine, and, after drying, the yarn is unraveled from the knitted tube directly to spools or cones. There is some question as to the smoothness of the final sock as compared with one which is knitted from yarn processed by [a method developed later]."

Dyeing Finished Stretch Yarn. A method for dyeing finished stretch yarn developed by Ray-Ser Dyeing Co., Chattanooga, Tenn., and some other dyers,* is a combination of skein and package dyeing. By this method, the finished stretch yarn, in the natural color, is wound into 40-inch skeins and the usual tie bands are put on. The skein is removed from the reel and covered with a knitted sleeve.

On removal from the reel, the skein contracts in size and becomes much thicker. It has the appearance of a fat doughnut, or of a muff sometimes used by women and girls to keep their hands warm in winter. Hence the name "muff" or "puff" is commonly used to describe the contracted skein.

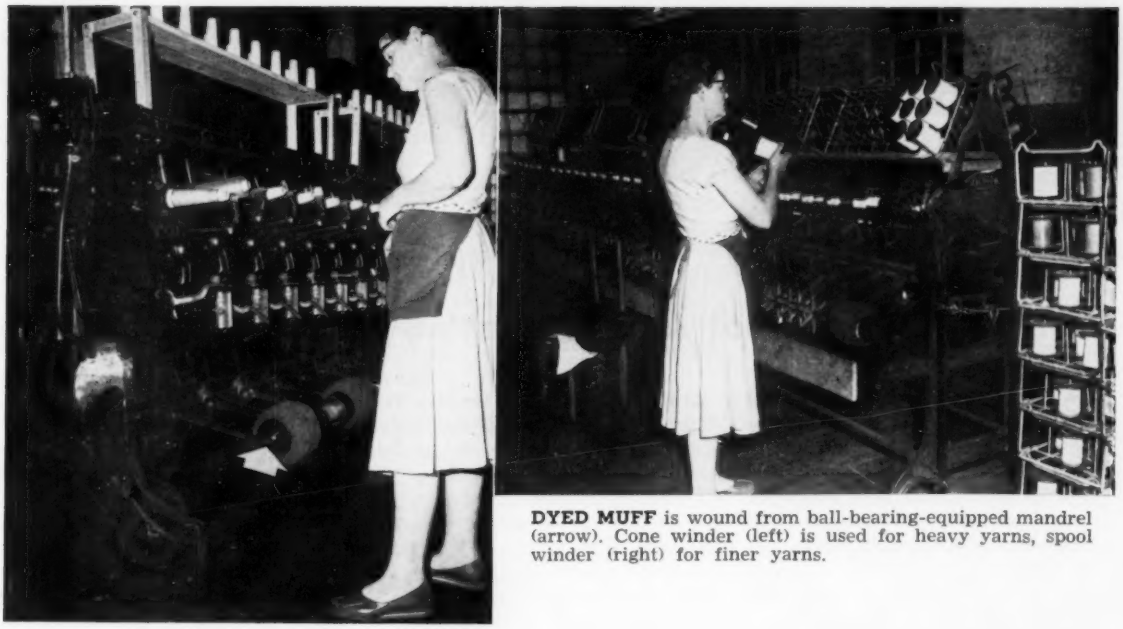
At Ray-Ser, a six-ounce muff is made for yarns up to 100/2, while an eight-ounce muff is made for 140/2 yarns and finer.

After removal from the reel the muffs are steamed or wet out to shrink them to a firm package, and are then taken to the dyehouse.

The muffs are placed on the carrier of the package dyeing machine with a separator after every four muffs, and 12 muffs to a spindle. Ray-Ser at first put a separator after every muff, but found by

*American Dyestuff Reporter, August 15, 1955, p. P564.

*See TEXTILE INDUSTRIES for Jan. 1956, pp. 73-75.



DYED MUFF is wound from ball-bearing-equipped mandrel (arrow). Cone winder (left) is used for heavy yarns, spool winder (right) for finer yarns.

experiment that the present system is satisfactory. The bulkiness of the muffs limits machine capacity to about one-third the usual weight.

The muffs are dyed by the normal methods used for nylon yarns, usually as a "triple resist," fast to preboarding, using chrome dyes, although the type of dye used depends on the end use of the yarn.

After drying, the muff is put on a mandrel with ball bearings. A cone winder is used for backwinding heavy yarn and a spool winder for light yarn. The spool winder is preferred for light yarn because of its friction drive — the spool stops when the yarn gets hung up, rather than breaking the yarn.

At either the coner or spool winder, the yarn must be pulled off at right angles to the axis of the muff.

When this method of dyeing is used, finished stretch yarns can be taken directly from stock and dyed in any desired color, permitting a much greater flexibility of inventory than by the methods formerly used.

Future Developments. Dyeing by the muff method produces a yarn which is considered to be not quite as good as yarn dyed before twisting. This, together with the winding problems presented, has led the Ray-Ser Dyeing Co. to consider the muff dyeing method merely an interim procedure, to be used until a better method is developed.

Ray-Ser is developing such a method, the details of which have not yet been disclosed, which will eliminate the muffs and make possible delivery of a better stretch yarn, although about a week longer will be required for delivery.

How To Count Yardage or Hanks on a Ring Twister

SOMETIMES a mill wants to check its ring twister production for a particular shift or, perhaps, run a certain predetermined yardage onto the take-up bobbin. Both can be done on the Leesona Model 10 ring twister when it is equipped with yardage and hank counters. These are two distinct counters and each is used for an entirely different purpose.

Hank Counter. With a three shift hank counter production records can be kept very easily on a one, two or three shift basis. The counter is driven from the feed roll shaft through a drive rod so that it will give an accurate recording. It has three separate recorders — one for each shift — which can be reset individually, and keep a record of production in hanks and tenths of a hank. A written record of the production at the end of each shift, or at the end of a day, can be made on a card that is located alongside the indicator wheels.

The hank counter can be used to check on production efficiency of the ring twister during any particular shift. If there are an unusual number of ends down on any one frame it can be spotted quickly by checking the visual production records.

Yardage Counter. A predetermined number of yards can be

wound onto the take-up bobbin by use of a yardage counter. This device stops the frame when the required poundage of yarn is twisted. With this arrangement the ring twister must be gang doffed.

The counter, which is driven by a gear train from the feed roll shaft, is attached near the twist end of the machine. It is the conventional type with one set of indicator wheels for pre-setting the yardage and another to indicate the actual number of yards that have been run off.

When the pre-set yardage is reached, the counter shuts off the current to the motor by means of a magnetic switch.

From "Twists and Winds," a publication of Universal Winding Co.

Why NRDGA Cannot Accept Existing Standards for Fabrics

Last September when Bishopville (S. C.) Finishing Co., a subsidiary of Reeves Brothers, Inc., announced its intention to finish certain textiles in accordance with American Standard L-22, "The American Standard Minimum Requirements for Rayon and Acetate Fabrics"* [TEXTILE INDUSTRIES *for Dec., 1955, p. 135*], *Arthur S. Johnson, chairman of the Standards Council of American Standards Association, expressed the hope that Reeves Brothers' action would "encourage wider participation by the textile industry" in the National Retail Dry Goods Association-sponsored ASA Project L-25 Textiles which is currently developing standards in the field of all textiles other than rayon, acetate, and mixed fabrics. With the thought that it contains information which may prove helpful to textile executives who must make decisions regarding the matter,* TEXTILE INDUSTRIES *presents below an extract of remarks by Benjamin H. Namm, president of Namm-Loeser's, Inc., Brooklyn, N. Y., and vice-chairman of the ASA Sectional Committee L-25 Textiles at a meeting on the L-25 standards.—The Editors.*

"THE NATIONAL Retail Dry Goods Association, in sponsoring Project L-25 Textiles, is following a logical step after the work of Sectional Committee L-22 has been approved as American Standards. In developing both works, our aim is very simple: that is to evaluate textiles from the point of view of performance which can be measured by textile test methods. These tests have been for years the objectives of the American Association of Textile Chemists and Colorists, the American Society for Testing Materials, and others interested in the same aims.

"The activities of the above mentioned organizations are primarily connected with the development of test methods, while our interest is in using those methods to evaluate performance requirements. . . .

"Systematized by the end-use groups, the standards aim to reduce the guess work of the buyer and seller alike about the properties of textiles that can be measured and evaluated by the textile test methods. In other words, the buyer and the seller all along the line of complicated channels through which the textiles pass before they reach the ultimate consumer, will have a common set of definitions establishing the performance requirements of fabrics. . . .

"The National Retail Dry Goods Association cannot accept the standards that have been arrived at by different trade association groups in the textile industry. The reason for NRDGA's working through and being governed by American Standards Association procedure is that we would like to have one set of standards of different measurable characteristics for all textile end-uses.

"If you look at the test methods promulgated by the American Association of Textile Chemists and Colorists, you will find that, except for a few specialized tests which deal with fabrics made of specific fibers, as a rule its test methods are based on a fabric's behavior irrespective of the fiber content. Therefore, whenever possible, and, of course, there are exceptions to the rule, we would like to have Standards for Fabrics.

"The desire to develop Standards for Fabrics should not be confused with NRDGA's desire to see a law enacted on Capitol Hill in Washington with reference to fiber identification. One reason for enacting this law is the desire to unify such laws as the Wool Labeling Act and various FTC rules, not uniform in nature, governing the labeling of other fibers. The other reason is that we are not afraid that this law will be inflexible since fibers do not come and go as frequently as styles change.

"We would like one law for all of them, as well as for newcomers into the field of man-made fibers that are apt to appear on the market from time to time. This proposed law will prevent the exaggerated claims made about fibers that are, by volume, negligible in the mixtures with other fibers. . . .

"We do not want, on the other hand, to have an unwieldly law governing the behavior of the fabrics because we do not want to make our very existence, styles and fashions, subjected to unwieldy machinery of governmental supervision. . . .

"The American Standards Association is a voluntary organization working with industry, commerce, consumers and governmental agencies, and it derives its livelihood from private sources. It is flexible in its procedures and it requires that the standards promulgated under it be constantly revised to meet the technological progress of the day. American Standards Association and its Standards Council are specifically limited by its Constitution from formulating standards. Standards

and their contents are formulated through various technical committees composed of organizations like yours and mine. To work with American Standards Association does not require that you become a member. Its work is not judged by what good it has done to you or to us. It works in the public interest and it protects the minorities' interests. It is governed by its member bodies, technical societies, and consumer groups. But no one can command more than three votes, and, therefore, not a single interest can dominate its decisions. . . .

"The retailers will probably buy many goods exceeding these Standards, many goods meeting the requirements of the standards, and many goods which do not meet all the provisions of the standards. What we want is to bring technology into play to allow us more intelligent and precise buying. In the style industry, imagination, good taste, and the whim of the public will not be ham-strung by the standards."

*According to information published by American Standards Association, Inc., L-22 establishes minimum requirements for fabrics whose composition includes half or more of rayon or acetate fiber. The standard consists of 51 specifications, or sets of specifications, according to end-use, plus 31 methods of testing to see whether these specifications are met.

The requirements of L-22 are not concerned with the way the fabrics are made. They are concerned only with the way they will perform. Thus, the consumer who buys a bathing suit which is sold as meeting the requirements of American Standard L22.1.14 can be sure that her swimming pleasure will be unmarred by breaking, yarn slippage, undue shrinkage, or loss of color.

Just how the manufacturer achieved a fabric that would meet the requirements of L-22 is secondary in importance to the performance of the fabric in use. The standard places no limitations on weaving or knitting constructions. It places no restriction on the ingenuity of industry in the provision of colors and finishes, except where those colors and finishes might harm the fabric's serviceability. There is nothing in the standard to prevent the development of newer and finer fabrics and finishes.

Any manufacturer or distributor who wants to use L-22, or any other American Standard, can do so on his own responsibility. He needs only to refer on his tag or label to the American Standard to which his product conforms. If he wants certification of performance, he can have it by applying several procedures.

It should be understood, the Association said, that in the case of L-22 there was no intention on the part of the drafting committee that the standard should be applied to every article produced by the industry. Rather, L-22 is offered as a means of identification for articles made according to certain performance specifications. It is expected that the consumer will still have the privilege of taking a chance on less satisfactory items at lower prices. By the same token, the consumer should realize that L-22 is made up of minimum requirements, and that many articles on the market may be considerably better than the minimum.

It is assumed that any standard developed and proposed by Sectional Committee L-25 for all fabrics other than those whose composition includes half or more of rayon or acetate fiber would be of a similar nature.

Worsted System Mill Reduced Roving Ends Down and Clearer Waste

STAFF PREPARED

EXCLUSIVE

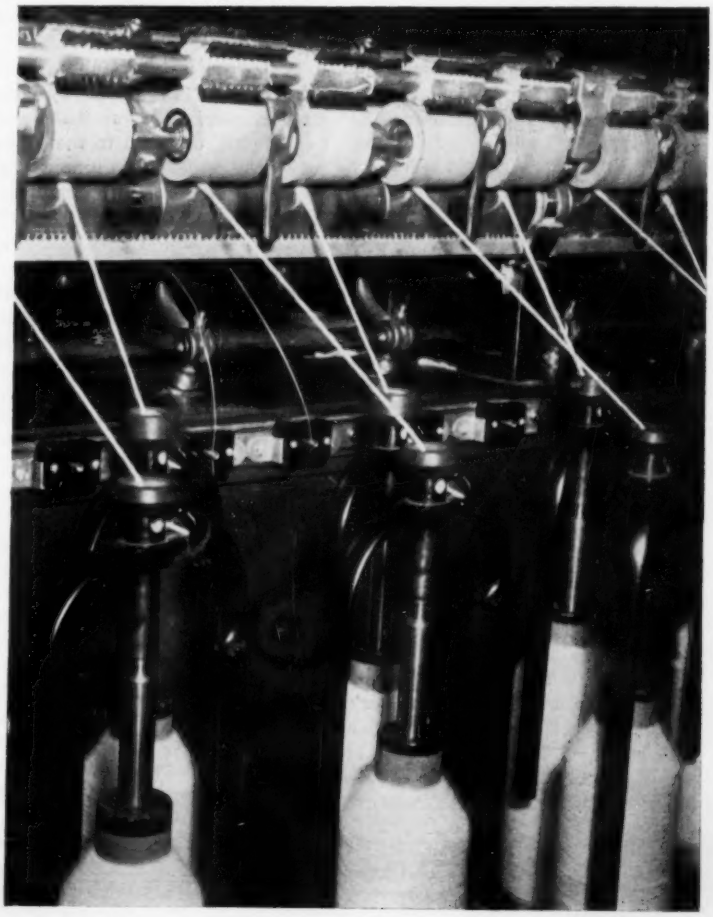
THE LONG DRAFT spinning facilities at Thor Mills Limited, Granby, Quebec, Canada, are used to make sales yarns for the knitting trade. Runs include nylon, Orlon, Acrilan, nylon-wool, 100 per cent wool, and nylon-Vicara.

About a year ago, rubber tips were installed on half of the mill's roving frame flyers as a means of reducing ends down [see T. I. for May, 1954, p. 96, "Reduce Ends Down"]. Observation of this installation running on a variety of fibers has led to recognizing qualitative and quantitative roving frame efficiencies.

How Tips Are Used. The rubber tips fit snugly over flyer tips. The tips used on the back row of spindles are slightly longer than those used for the front row. Tips require only hand adjustment for placement and removal from flyers.

Thor has found that the strength of nylon roving is such that it is not necessary to use tips for this fiber in order to reduce ends down or fly. But for all other materials

RUBBER TIPS on flyers run false twist to within ¼" to ½" of delivery roll nip. This reduces loose fibers, clearer waste, and ends down. Note difference between size of tips on flyers on front and back rows of spindles.



processed the tips have been found to improve machine operation.

What They Do. The action of the tips serves to insert a constant false twist in addition to the normal twist between flyer tip and nip of delivery rolls. Either with or without the tips, roving goes down the flyer leg containing only standard roving twist. Normal twist inserted without tips usually runs to within 1½ inches of the delivery nip. The tips increase the apparent twist between front roll nip and flyer so that the twist is backed up to within ¼ to ½ inch of the delivery roll nip.

How They Help. The effect of increasing the apparent twist between nip and flyer, and of running the false twist up to within a short distance of delivery roll nip is to pick up every loose fiber of the delivered ribbon, and to strengthen the uncontrolled length of roving between nip and flyer.

As a result, ends down, fly, and clearer waste are reduced. At Thor, the greatest advantage has been enjoyed in control of loose fibers. This has been reflected in the smaller amount of waste picked up by brush clearing the top delivery roll; the reduction has amounted to about ⅓ less than clearer waste figures before tips were installed. Another general advantage of having tips is the production of a cleaner yarn.

Note: Rubber flyer tips discussed in this article were obtained by Thor Mills Ltd. from Tillicum Rubber Co., Lacey, Washington.

Is the Right-Hand Filling Fork an Asset or Liability?

Maybe you had never given this matter serious consideration. Georgia mill men did recently. Read here what they think about this and their experiences with several other phases of the weaving operation. Likely as not your employer and, in turn, you will be well repaid for the time required.

STAFF REPORT*

Is Right Filling Fork Asset or Liability? Of the ten replies given to this question, four indicated that the right hand filling fork on side fork looms was an asset, while the remainder considered it a liability. One of the four is a print cloth mill with X and E model looms, one produces osnaburgs on 40″ E model looms, another 32″ and 56″ ticking (light and heavy) on Model E, XP, and X-2 looms, and the fourth has XP looms making fabrics ranging in weight from 10 to 30 ounces per linear yard.

Quality Control in Weave Room. Several interesting methods were given for maintaining cloth quality in the weave room. Here are two:

1. We have set up a weaver's quality report by means of which each weaver is given a weekly quality grade in regard to his work for the past week. Grades of 1, 2, and 3 are passing while 4 and 5 are below standard. The grades are assigned according to the number of weaving defects per 100 yards of cloth. Each style has a different standard, according to customer quality standards.

Ten per cent of all cloth run is checked and tabulated by loom numbers and shifts so that it can be, in turn, credited to the proper weaver. A weaver is given a grade on each style fabric woven and, in turn, is given an average grade for all styles, which is the grade posted in the weave room.

A quality sheet is kept on each weaver showing his cumulative weaving defects by types and totals so that if he is below standard we can readily check to see what type defect or defects is giving him the most trouble.

Weavers are required to inspect cloth on each of their looms twice a shift. A flash light is used on the most critical styles. Third hands inspect the cloth on each loom of their jobs once a shift. Fixers also look at each loom once a shift, but with more regard to loom defects instead of weaving defects.

2. Cloth room overseer sends a loom defect report back to weave room overseer's office, where it is recorded and passed on to second hand who shows it to weaver and loom fixer. After loom fixer repairs loom, he signs report and turns it back to second hand who checks loom again and forwards report to weave room office to be checked against permanent record Weaver and loom fixer are held responsible for cloth on their stand of looms and inspect it all during the day. Also, the second hand and overseer inspect cloth on looms. Shift marks are stamped on selvage.

What Is Best Way to Tie-In Warps at Loom? As would be expected, no two mills are using exactly the same procedure for preparing a warp on the loom to be tied with a portable machine. Some are very much alike but differ in one or two minor respects.

Here is the method considered best by a mill processing spun synthetics on 50″ XD looms running plain and fancy goods: (1) Smash hand checks cloth for any doubles, etc. Any ends out or laps are corrected at this check; (2) Pattern in loom is leased with end/end lease at drop wires and lease rods are inserted; (3) New warp from slasher room has been taped across width and clamped below tape; (4) Lease from pattern is brushed and tied to flat sheet from new warp.

Two portable machines and four frames are utilized at a mill making flannels, work suiting, draperies, poplin, and gabardines on E, X, X-2, XD, and XP type looms. There the warp is leased out, loom cleaned, lubricated, etc., and yarn is placed in one of the frames. The

*Continuation of the report of the fall meeting of the Textile Operating Executives of Georgia, the slashing portion of which appeared in the January, 1956, issue, beginning on page 97.

knotter is then placed in the frame and ties the yarn while another loom is being prepared in like manner.

Of interest to other mills may be this method adopted by management of a plant making a wide range of cotton fabrics:

"We put a tape on the top and bottom side of the sheet of yarn 48" from the end of a full beam. We then put a wide tape on top and bottom where the yarn is to be cut. The yarn is then cut down the middle of this wide tape which makes a good start-up on the new beam as well as a good run-out on the loom. By taping the full beam as outlined, it eliminates brushing or combing when putting in the rack.

"We also lease the pattern at the loom to prevent excessive combing. We do this with small blocks, lifting the appropriate electrodes according to the type lease desired. These blocks are a tremendous aid in that you can readily spot when and where a warp is out of lease. In pulling the pattern yarn over the rack, combing is greatly reduced and a good straight tying job insured."

Responding to the question, "Do you use lease rods back of the drop wires for warps of approximately 3,000 ends on a 40" to 42" loom?," six Georgia mills said they do while seven indicated they do not.

Operating executives of three mills reported changing their warp tying machines or methods of tying warps in the past two years. Here is what two of them had to say:

No. 1: We switched from a Barber-Colman LC-46" machine to a Barber-Colman MC-56" machine. By doing so, we cut off one man to a shift and amortized the purchase in approximately six months. Our efficiency is undoubtedly better, in that loom downtime has been cut by approximately 30 minutes per loom on the warp out We change styles so often it is difficult to express in terms of weaving efficiency. We tie all warps for 416 44" X-2 looms with three men per shift using one machine. One man leases out the old warp and sets the new in the beam rack. Another prepares the new warp and pattern for the rack. And the third does all the tying with the portable knotter.

No. 2: For our narrow cam type looms we are now tying approximately 80% of our warps on a stationary machine. This change was made from portable due to so many warps falling out at one time. By having tied warps on the floor, we are able to start the looms faster. From our checks, if anything, the stationary does a little better job than the portable.

PREVENT CRACKS IN CORDUROY PINWALE

Cause	Remedy
Let-off not working properly	Keep let-off working properly
Harness setting and timing	Set harness properly. Time harness from 1½"—2½" from fell of cloth (depending on type of loom).
Warp line	Run as near straight warp line as possible.
Temple binding	Keep temples free and taking-up properly. Hold cloth as wide as possible at temple.

Advantages of Aluminum Lays. Here are some benefits which Georgia mill men say they are deriving by using aluminum lays on their Model X-2 looms:

(1) They are stronger;

(2) There is less vibration;

(3) They are easier to align and keep aligned;

(4) Check strap brackets do not come loose as often, and when they do the aluminum lays are not worn as wooden lays would be;

(5) They have adjustable blocks in outer ends that permit adjustment of depth to which shuttles go into boxes;

(6) They are lighter in weight, so there is less load on the loom motor.

Mill K reports that because the aluminum lay is easier to align and keep aligned, longer shuttle life can be expected. Since 1948 when looms with aluminum lays were first installed in this plant, life of shuttles has averaged approximately 35 million picks as compared with a life of approximately 20 million picks with conventional lays.

Experience with Bartlett Let-Off. Mills giving their experience with the Bartlett type let-off reported the following advantages to be derived from the use of it as compared with the Roper type:

1. A wider range of fabric constructions can be made without changing gears;

2. There are fewer parts to wear and require replacement;

3. It may be easily adjusted;

4. Provides smooth let-off and consequently better control of warp tension;

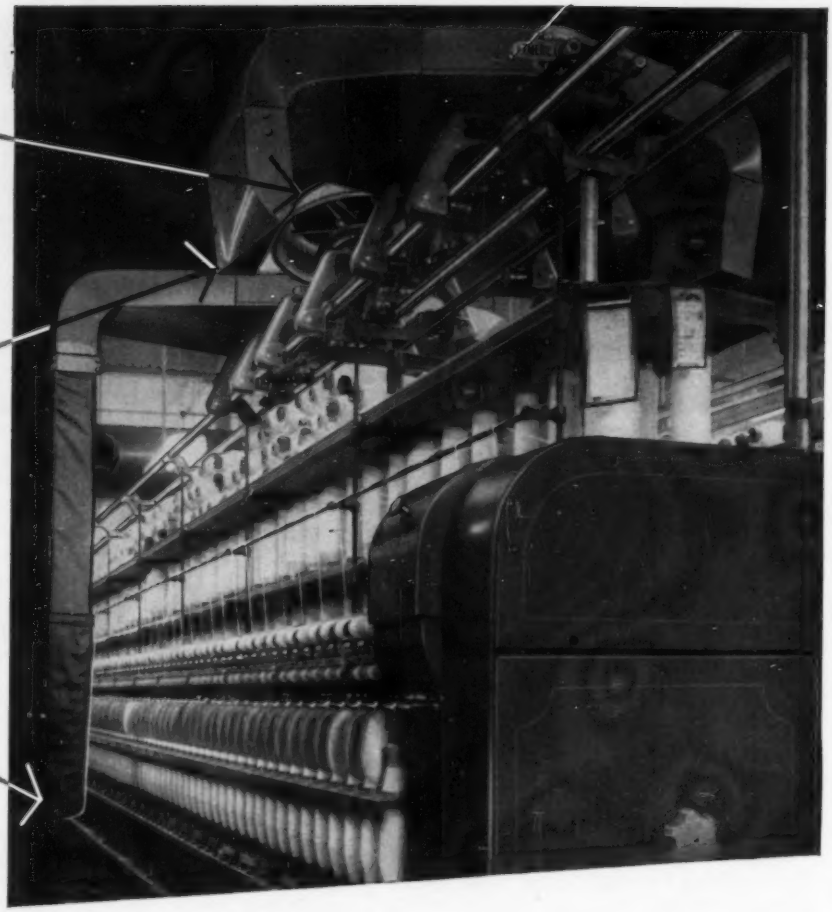
5. It is easier to clean;

6. It reduces the amount of wavy cloth and thick and thin places produced.

Standard Friction Drives on X-2 Looms. Only two mills reported experience with X-2 looms equipped with the standard friction drive. One seems to be well pleased with this arrangement while the other is not.

A plant with 724 44" X-2 looms equipped with the No. 8 dry disc clutch drive said that the drives give satisfactory service and are easily maintained. On the other hand, from a mill where 96 40" X-2 looms with the same type drive are operating, came this report: "The drive is easily worn, hard to adjust to stop for a filling break stop; if set too tight, it drags off and stops slow, causing the loom to turn over too much on the stop; it is difficult to clean and hard to tear down and replace parts which wear out quite readily."

Center Filling Forks. The nine mills reporting experience with center filling forks were unanimous in the opinion that it is not necessary to decrease the warp tension on looms equipped with center filling forks. On the other hand, all but two either have had



NEW CLEANER SOLVES ENTIRE CLEANING PROBLEM

This new American MonoRail Cleaner sends controlled currents of air across three separate areas—

1. A high velocity air foil type fan cleans all ceiling areas.
2. A turbo type fan sends controlled air currents across roving and creel.
3. Another separate turbo fan directs high velocity currents toward the areas under the frame.

Travelling automatically as a unit, this new American MonoRail Cleaner covers as many as twelve frames depending on mill conditions.

Let an experienced engineer recommend the type of cleaning to give greatest coverage in your mill.

AMERICAN OVERHEAD HANDLING EQUIPMENT

MONORAIL COMPANY

13106 ATHENS AVENUE • CLEVELAND 7, OHIO

SPEEDS FOUND MOST PRACTICAL ON X-2 LOOMS

Mill	Loom Width (in.)	Speed (ppm)	Efficiency (%)	Shuttle Life (hr)	Purchases Shuttles Complete?
A	50	163	92	2000	Yes
B	40	185-190	—	2037*	Yes
G	Dobby	185	91	1970	Yes
H	50	168	—	——	Yes
I	60	162	—	——	Yes
J	40	184	92	3200	No[1]
K	44	172	90-91	——	No[2]
L	—	184	91	1700	——
M	46	186	94	4123-4712	Yes
N	70	160	—	——	No[3]

*Test made with looms operating at 200 ppm.

1. Installs fur and bristles at mill. Advantage is that shuttles can be purchased cheaper. Only special tool required is a grooving machine. Mill saves money by returning used shuttle eyes to manufacturer for reconditioning and reuse.

2. Purchases shuttles that have already been grooved for fur and holes bored for bristles, by the manufacturers. Applies fur and bristles at mill with glue, knives, and pliers to pull bristles through. Mill has such a wide range of styles that it is difficult to order and stock appropriate complete shuttles.

3. Due to frequent change of fabrics on looms it is more practical for mill to install fur and bristles to suit individual requirements.

or still do have problems with kinky filling at the fork.

There is always a problem of kinky filling at the fork, according to the reply to this question from a plant weaving spun synthetic yarns on 46″ XD looms, due mainly to one of three causes: slack tension on the warp, too much power, and improper tension on the filling.

"We had a problem with kinky filling at the fork when we changed from about a 1.50 weight fabric to a 3.60 weight," said a spokesman from a mill weaving cotton yarns on 44″ X-2 looms. "We overcame this by running more tension in the shuttle and taking tension off the spring at the center fork. We finally purchased a lighter weight spring which eliminated our problem and enabled us to go back and forth from heavy and light weight goods without changing the tension."

Mechanical vs. Electrical Warp Stop Motions. In only one mill out of 15 reporting are the looms being equipped exclusively with the mechanical type warp stop motion. There flannels, work suiting, draperies, poplin, and gabardines are made on E, X, X-2, XD, and XP model looms. "Most of our looms came equipped with mechanical stop motions and the others are being changed to standardize parts," the mill spokesman stated. "We find that the mechanical stop motion is best suited to our looms and type weaves; there are fewer loom stops with a mechanical stop motion."

Comment of a representative from a mill weaving diaper cloth on X-2 dobby looms, some with mechanical and others with electrical warp stop motions, was: "We prefer the mechanical stop motions, although they require more maintenance work. The electrical type sometimes stops the loom when the warp tension changes as the weave changes from a double woven fabric to the plain weave of the pinking bar. We also find that electrical stop motions are so sensitive that they sometimes stop the loom when they are moved by the air stream in blowing-off."

Three other mills have both types, while ten have the electrical type exclusively.

Changeover from mechanical to electrical type stop motions had been effected at three of the mills reporting and here are the reasons given:

Mill C: Mechanical wore out. Electrical does not clog up as badly with lint and stops loom better.

Mill D: We feel the electric stop motion is more economical, gives a better weaving efficiency, and is better suited for our weaving operation (40″ E model looms with both types, making osnaburgs).

Mill N: We have experienced better weaving results, less maintenance, and a speed up in changing stationary tied warps.

Running Several Sizes and/or Colors of Filling? If mixed filling is cutting production of first quality fabric in your mill, perhaps one of the following methods utilized by mills making fabrics that require several sizes and colors of filling may prove helpful:

1. Eight yarn sizes and 15 colors are required at **Mill D-1.** More than one color and/or yarn size is required on each loom. Filling is stored in roller boxes and on pin boards and is trucked to looms in roller boxes. Filling hauler carries one color at a time and puts filling on all looms running that color.

2. At **Mill H** approximately 20 numbers and 60 different colors are required. Filling is stored in boxes of about 125 pounds capacity in a special filling storage area outside the weave room. On white filling, the large boxes of filling are pushed to a central area in the weave room where battery hands load their buggies. On check looms, filling is laid up in a four-section box on the loom by a filling man.

3. **Mill N** uses some quilled filling. As small boxes under each quiller spindle are filled, they are placed in a truck rack arrangement. These small boxes are designed to fit on the loom and as the rack is pushed up the warp alley in the weave room, the small empty filling boxes are replaced with full boxes. As many as four of these boxes are utilized on the mill's box looms.

4. Approximately 30 different filling yarns of cotton and staple rayon are required at **Mill F** where this method of handling is followed: Filling doffers mark according to code with chalk the full bobbins at doff, and after doffing leave their full canvas box in the spare floor. Around this spare floor area is a series of stalls, each of which holds two roller cabs. One person on each shift has the primary duty of dumping the filling from the canvas boxes into the roller cabs. Full cabs are tagged and pushed to filling storage room. One person on each shift operates the filling storage room. He

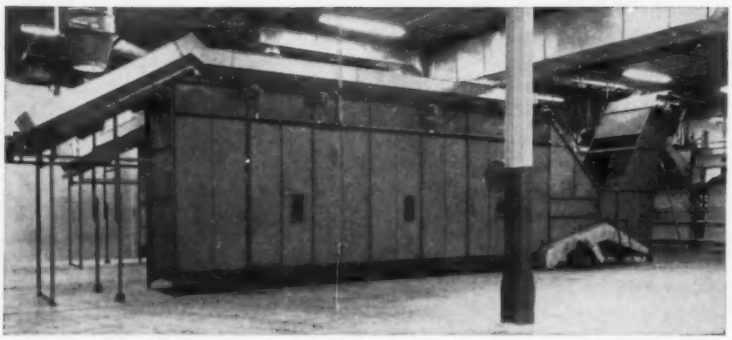
How Proctor Blending Equipment makes

MORE PROFITS

at ALEXANDER SMITH

"manufacturing costs reduced...quality increased..."

"We think it would be an opportune time to discuss the very fine equipment you have furnished us in Greenville and Yonkers, and for us to show our appreciation of your efforts to reduce our manufacturing costs and to increase our quality..."—writes Alexander Smith's Director of Engineering. For today, improved *automatic* blending of wool or synthetics is a cost-saving reality at Alexander Smith.



PROCTOR WEIGHING FEEDS at Alexander Smith precision weigh the stocks laying them in layers, which are picked before going to the roller distributor.

EQUIPMENT PAYS FOR ITSELF QUICKLY

Regardless of the size of your mill, a Proctor & Schwartz blending system will not only pay for itself quickly in direct labor savings, but also in the production of better yarns at greater profits!

THE PROCTOR ROLLER BLENDER distributes the precision-weighed stock, re-lays it in layers and then breaks it down from top to bottom keeping variations in the fibers blended under 1½%. The second unit is on color blending and assures uniformity of shade in their carpet yarns.

QUALITY PERFORMANCE GUARANTEED!

Blending is just one of the many fiber processing operations of every conceivable type which have been pioneered by Proctor and Schwartz—world's largest and most experienced producer of blending machinery. And, as always, every piece of Proctor blending equipment, from the smallest pilot unit to the largest system, comes to you with the assurance of quality performance—as guaranteed.

Proctor

PROCTOR & SCHWARTZ, Inc.

Manufacturers of Textile Machinery and Industrial Drying Equipment
Philadelphia 20, Pa.

PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

- AUTOMATIC BLENDING SYSTEMS
- WEIGHING FEEDS
- PICKERS
- SHREDDERS
- BALE BREAKERS
- SYNTHETIC CARDS
- GARNETTS
- DRYERS FOR FIBROUS MATERIAL
- YARN DRYERS
- HOT AIR SLASHER DRYERS
- CLOTH CARBONIZERS
- ROLLER DRYERS AND CURERS
- LOOP AGERS FOR PRINT GOODS
- TENTER HOUSINGS
- OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS
- MULTIPASS AIRLAY DRYERS
- NYLON SETTING EQUIPMENT
- CON-O-MATIC WASHERS
- CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS
- EQUIPMENT FOR "REDMANIZED"® SHRUNK-TO-FIT FABRICS
- CARPET DRYERS

keeps a running inventory on all filling by grades, receives and issues all filling, and conditions specified yarn numbers. Filling hauler checks out roller cabs of filling from storage and pushes to looms. Each loom has filling box with card on front and back showing yarn number, grade, and color mark.

Tension Build-Up on Filling. Shorten stroke on quills and use less tension in shuttle near butt of quill was the suggestion made by one mill man for compensating for tension build-up on the last 100 yards of filling on an 8¾″ quill. "For most weaves, we do not fur the shuttle for three inches near the butt of the quill," said another.

Experience with Loop Selvages. Only one plant out of seven responding grooves out race plates for wires on looms weaving fabrics with loop selvages. Average life of shuttles on these looms ranges from four weeks to six months.

When a warp is short of the required ends (6 or 8, etc.) and loops are too large, here is what is done in two mills: (1) Move one or both of the wires into an air space nearer the selvage ends. This allows adjustment without removing dents from the reed. (2) Another sets in ends on cheese to fill in.

Check Straps on X-Series Looms. It appears that conventional open end leather check straps are preferred on the X-series of looms in the Georgia mills. That is the practice in ten of the 15 mills answering this question. One mill has endless leather straps on 70″ X-2 looms, but favors the conventional.

Both regular and endless leather check straps are in use at **Mill G** and some multiple type composition straps are on trial. Latest tests made at this mill gave 580 looms, but favors the conventional. strap and 3,092 loom hours for the endless. Figures were not available on the multiple type; however, it has been found that this gives less trouble on the start up after a shut down than the other types.

A mill spokesman currently using both endless and conventional straps made of leather and synthetics plans to use leather exclusively. One other mill uses leather straps of the conventional and endless types.

Multiple endless check straps made of a synthetic material have been adopted for use on 416 new 44″ X-2 looms in one mill where many types were tried, and this was found to be superior to the others.

The question, "Is an endless check strap better for a heavy package?" brought in three "Yes" replies, two "No," and one indicating that it made no difference.

Using Two or More Loom Fixers on Same Job as Team. Apparently this practice is not common in Georgia mills. The only reply received to the question asking for experience using two or more fixers on the same job as a group with each man being responsible for certain parts of the loom or certain defects came from a mill with one section of looms equipped with Jacquard heads.

There two fixers are assigned to the section, and they work together as a team.

The loom fixer keeps the loom in repair and is responsible for any defect that the loom may cause. He starts up and gets new patterns approved that do not require the use of the Jacquard head. His signal is three empty quills over the battery.

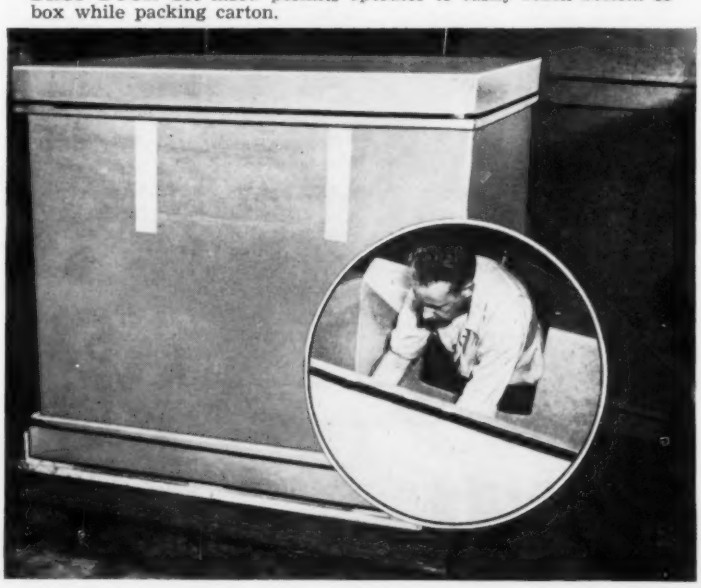
The Jacquard fixer keeps up the Jacquard heads and is responsible for the defects caused by those machines; also to start up and get approved the patterns that require the service of the Jacquard head. His signal is two full quills over the battery.

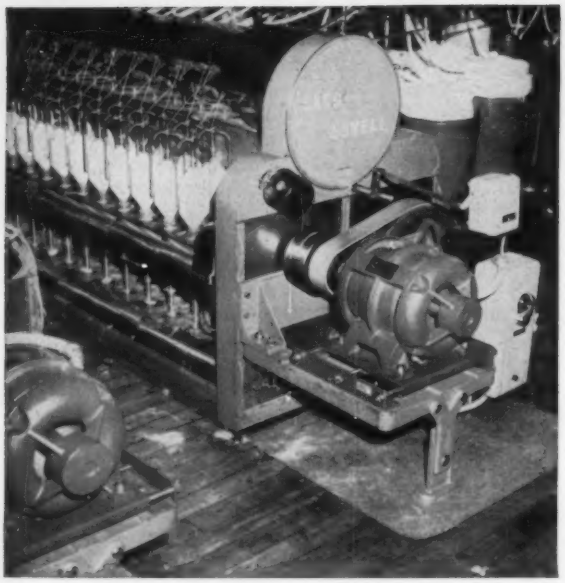
Mill Saves Money by Using Yarn Carton with Drop Door

BIGELOW-SANFORD Carpet Co. is now using a Drumpak for shipping cones of tufting yarn. Prior to adopting this new container, cones were shipped either in a lined trailer truck or in small containers holding 25 cones.

By changing to the new container, made by Gaylord Container Corporation of 100% cylinder kraft, Bigelow now ships 80 cones in one box. Weight varies from 500

DROP DOOR (see inset) permits operator to easily reach bottom of box while packing carton.

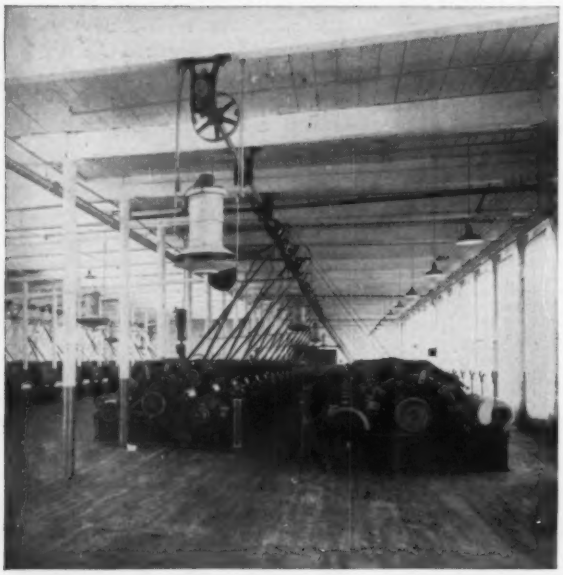




Smooth Start-up Eliminates Broken Ends, Increases Production of Roving Frames!

This short center drive with its Tannate Flat Leather Belt, automatic spring-tension motor base and Bethlehem slip ring starter not only starts the frame so smoothly that it has eliminated broken ends, but also maintains constant speeds increasing production. This is one of 24 drives which were designed and engineered by J. E. Rhoads and Sons for a prominent New England textile mill. Several of them have been running for more than five years and have proved their ability to produce top quality yarn economically. *Rhoads Engineering Service* . . . You too, can take advantage of Rhoads Engineering Service when you are planning new drives or changing old ones. Rhoads Engineers are specialists in the field of mechanical power transmission.

planning new drives or maintaining old ones?



Rhoads Belts driving cards efficiently, economically.

RHOADS...Your Best Buy in Belting...

Whether your machines are driven from individual motors or from a line shaft such as the card room shown on the left, Rhoads belting can often help you obtain more production and lower your belting costs.

As tanners, curriers and manufacturers of such well-known brands as Tannate, Gripotan, Gilt Edge and Powerhold, you can be sure that Rhoads has the belting and the "know how" to economically solve almost every drive condition in your mill.

Remember, Rhoads belting costs less to run and maintain.

Why not take advantage of the experience Rhoads has had in the production and application of flat leather belting? It is a service offered to you without charge.

2100 W. Eleventh St., Wilmington 99, Delaware

ATLANTA • NEW YORK • CHICAGO

RHOADS
INDUSTRIAL LEATHERS

to 800 pounds depending on the type of yarn. Savings of about 30% in shipping charges have been realized in addition to substantial labor savings.

An unusual feature of this box is the drop door which makes it possible for the loader to reach the bottom of the box while packing (see illustration on page 161). The door is taped shut for shipment.

More on the First International Wool Textile Research Conference

The implications and many of the accomplishments of this comprehensive meeting were reported in TEXTILE INDUSTRIES *for November and December of 1955. Recently, more details of the conference were discussed by the U. S. team which made the Australian trip, at a seminar for wool mill men and researchers sponsored jointly by the Wool Bureau and the Textile Research Institute. One of the panelists, Dr. John Menkart, Assistant Director of Research, T. R. I., summarized Conference proceedings which dealt with manufacturing. Reported here are some of the findings covered in his paper.*

Handle Of Raw Wool. We have all heard the statement that there are differences in the softness of handle between wools, presumably meaning that two wools which are identical in every other respect have some differences in substance or else difference in fiber surface which gives them different properties. In one paper, Roberts had a group of about 50 Australian Merino wool samples graded for handle, both in the grease and clean, by a group of skilled appraisers and then determined the fiber length, fiber diameter, staple, crimp, and yield and other properties.

He found that the handle grading which the assessors had given to the wool was almost completely accounted for by the diameter and the crimp differences. The only other factor which played a significant part in the grease was the yield, and interestingly enough, it was the suint component of the yield which played a part. At any rate, this particular experiment provided no support for the belief that wools do have differences of substance or surface between them.

Carbonizing. There were several interesting points brought up on the subject of carbonizing, principally by Australian workers. In one paper, Crewther discussed the effect of the presence of surface-active agents in carbonizing liquor. He has found that under certain conditions, all wetting agents — anionic, cationic, and nonionic — give quite considerable protection to the wool against damage caused by baking in the acid state, as measured by both reduction in the loss in weight and by improved strength retention of the carbonized material.

As far as could be told from the laboratory experiments, the carbonization of the cellulose by sulfuric acid was not affected by the presence of wetting agents, and this paper appears to offer quite a promising way of protecting the wool.

However, some further studies on a pilot-plant scale are needed; firstly, to make sure that the carbonization of the burrs is in fact not impeded; and, secondly, because laboratory studies showed that the protective effect of wetting agents operates only if heating of the wool takes place in the presence of very small amounts of liquid. If more than a critical amount of liquid is present, then the presence of the wetting agent actually accentuates the damage, and what is not certain is whether under commercial conditions of liquid extraction by squeeze rollers the amount of liquid would be reduced sufficiently to obtain the desirable conditions.

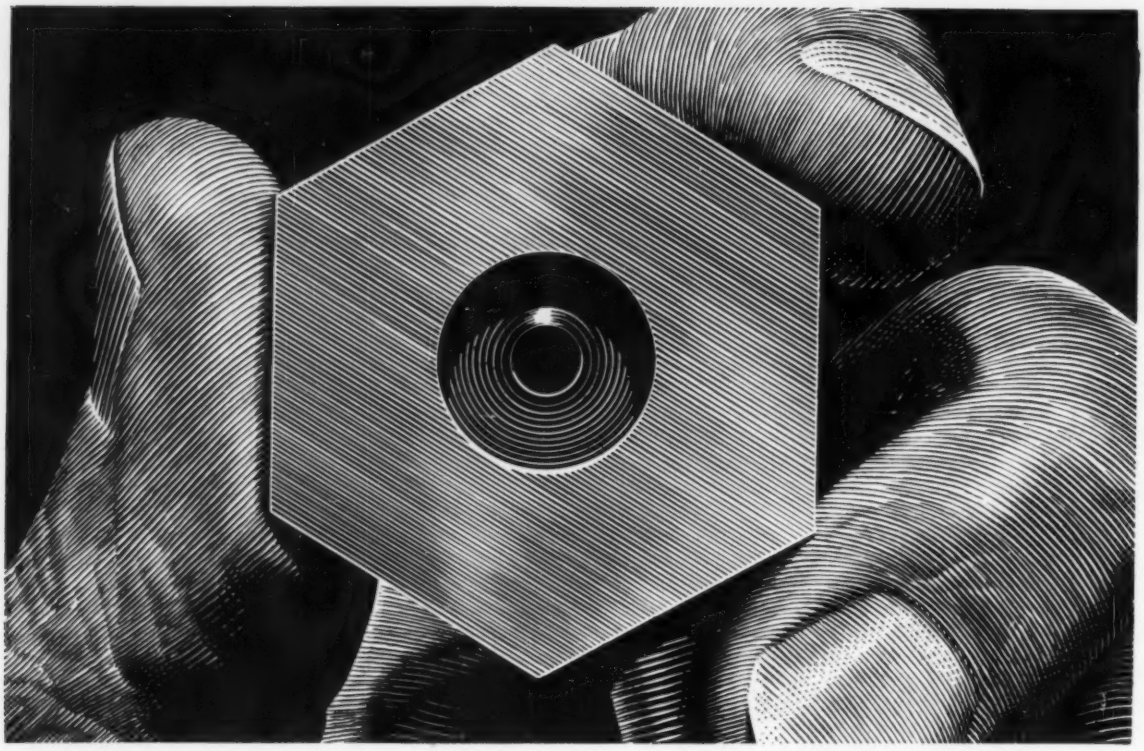
Carding. Going on next to carding, there was a study by Bounass on fiber breakage in worsted carding. It is, of course, well known that substantial breakage takes place in carding; the figure which investigators have observed is usually about 50%, which means that a hundred fibers going into the card become 150 at the output end.

Bounass carried out a series of measurements under mill conditions, where identical material was carded on nominally similar cards, and he found that the variation was very substantial. Two cards, side by side handling the same material and apparently behaving in the same way, did in one case break 60% and 20% of the fibers.

There were several instances of this kind and I think the main point was that, with careful scouring, setting, and attention to the card, the amount of breakage does not need to be anything like as great as is usually accepted.

There was also an interesting paper by the Torridon group [Wool Industries Research Association], describing the development of a device they call the "Autocount," which is a means of controlling the levelness of the output of a woolen card. It works on the feedback principle; the thickness of the web, passing out of the doffer, is measured photoelectrically, and the speed of the doffer and the condenser is automatically regulated.

If the web starts getting thinner, the doffer and condenser are slowed down, and if the web thickens, they speed up, while the rest of the card goes on at constant speed. In this way, the variation in weight along the roving is minimized and the variations due to full and empty hopper or mis-



New Self-cleaning Spray Nozzle*

CARRIER DEVELOPS SPRAY NOZZLE THAT CAN'T CLOG

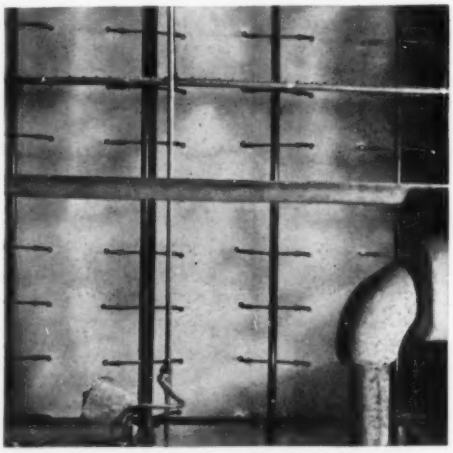
Latest in a long parade of Carrier "firsts" is a spray nozzle that literally spits out lint and foreign matter. It simply can't clog.

The Carrier "Cant-Clog" nozzle consists of a heavy-duty brass body and threaded cap with special built-in flexible diaphragm. Water is forced through the small hole in the diaphragm to create an efficient spray pattern. If lint or foreign matter becomes lodged within the nozzle behind the diaphragm, water pressure increases to extend the diaphragm—thus enlarging the hole and forcibly ejecting the foreign matter.

In a year and a half of testing in a large South Carolina mill of a leading textile manufacturer, the nozzle has proved an unqualified success. The plant engineer of this mill reports: "We have exceptionally heavy lint conditions. The Carrier nozzle has operated almost continuously in our mill since August, 1954. We are highly pleased with it. Labor costs for maintenance have been virtually eliminated."

You can reduce *your* nozzle maintenance to zero by installing a Carrier Air Washer equipped with "Cant-Clog" nozzles . . . or by using them to replace the nozzles on your present washer. To find out what this can mean in *your* plant, call the nearest Carrier office. Or write Carrier Corporation, Syracuse, New York. *Pat. Pend.

Below: This air washer installation serves carding, opening and picking rooms in a large South Carolina textile mill. Carrier "Cant-Clog" nozzles perform so efficiently that tank screens have been removed altogether.



Carrier air conditioning • refrigeration • industrial heating

weighs are very much reduced. Naturally, the device does not do anything to correct the variation across the card. [See TI for May, 1955, p. 163.—Eds.]

Lastly, on the subject of carding, Chamberlain from Leeds described a photoelectric instrument for determining the neppiness in card web.

Combing. On combing, Townend described some experiments with dyed tracer fibers on the straightening of the fibers, and particularly the removal of hooked ends, in gilling and combing. Similar studies had been made in the past on cotton and staple rayon, but not as far as I know on wool. Townend found, like the workers on cotton, that the usual procedure of reversing the direction of the sliver between processes gives much better results than if the sliver is drawn successively in the same direction.

Drafting. A study of drafting was reported by Angus and Martindale from Galashiels. They were concerned with spindle drafting of woolen rovings, but I think that their observations are of interest not only for mule spinning but for drafting in general. They measured the forces developed in the roving as it is drafted against twist, and they found that in general as the process proceeds that the tension in the roving first increases and then begins to fall.

At the same time they determined the changes in regularity of the yarn as it was being drawn and they found that during the stage while the force is increasing, the strand is becoming more regular. What is happening is that in the original roving, when drafting starts, the twist is, of course, concentrated in the thin place, and the thick places are being drafted out preferentially in the generally accepted way.

However, once a certain stage is reached, this correcting process actually over-shoots and because the twist does not redistribute itself rapidly enough, the originally thick places actually become excessively drafted out and turn into thin places.

The device which they have used for studying the phenomena can be applied quite easily to determine the optimum conditions of draft and twist for producing the most uniform yarn on the mule.

Dyeing. On the subject of dyeing, a paper by Larose of Canada was concerned with the changes in wool fiber diameter in dyeing, and showed that the diameter increases linearly with the amount of dye present; but, over the practical range of dyeing, the increase to all intents and purposes is negligible.

Perryman of Leeds dealt with the changes in the properties of wool on dyeing under a wide range of conditions, particularly with chrome dyes, and has found, in confirmation of earlier data, that increasing damage to wool occurs when the pH is lower than 3½ or greater than 5.

Also on damage, Lees and Elsworth had examined the correlation of alkali solubility of wool with the resistance of abrasion for three treatments—bleaching, boiling in acid, and treatment with chlorine. All three treatments increase the alkali solubility at the same time as decreasing the resistance to abrasion; the relationship between the two properties is not the same in all three cases, so that alkali solubility cannot be taken to predict the resistance to abrasion, unless the treatment used is known. This same matter has, of course, been taken further by Dusenbury and Jeffries at TRI, who found that if a treatment like formaldehyde is applied, alkali solubility is improved, whereas the resistance to abrasion remains unchanged.

Mothproofing. Mothproofing was discussed in two papers by Lipson and his co-workers in Geelong [Australia]. The first one dealt with the observation that some anionic surface-active agents, when applied to wool in sufficiently large quantities from an acid solution, withstood resistance to moth larval attack. This effect is fast to dry cleaning, but not to washing or light.

More interesting was the second paper by Lipson which discussed the effect of the insecticide dieldrin. Dieldrin is a compound somewhat similar chemically to DDT. It is a powerful insecticide and has been used quite widely in agriculture during the past few years. Lipson tried it out on wool, expecting it to behave somewhat similarly to DDT, that is, to give very effective protection against moths but not to have very low washfastness and no fastness to dry cleaning. However, much to his surprise he found that the moth repellency of the treated wool is remarkably fast both to washing and dry cleaning.

1956 Could Be Exciting

As the textile industry gets set for another year, and everybody connected with it expresses a fervent hope that business will be good, there are at least four things that members of the industry can watch with considerable interest.

BY RINGGOLD ARDEN
EXCLUSIVE

More Inflation. As we have remarked several times, the power to set minimum wages is the power to set all wages. The increase in the minimum wage for the textile industry from 75 cents to one dollar an hour is a compromise between the lower rates urged by most members of the industry, and the higher rates demanded by the labor unions and inflation-minded lawmakers.

The union people and the other inflationists will be coming right back for what they didn't get this time, and when they finally get what they want now, they will get themselves set to come back for more later.

The American labor unions have

only from **enka**...

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been firmly committed for many years to a policy of graduated perpetual inflation, and the perpetual price increases that will go with such inflation. This policy has received the blessings of a good many prominent economists and politicians who apparently look upon human beings as analogous to ants and bees, and who like to apply the anthill or beehive systems of economics to people.

The fact that in the beehive or anthill the unproductive are killed off and not given a guaranteed living at the expense of the able workers, is comfortably overlooked by economists of this type. They insist on believing that by forcibly increasing the money incomes of people who can not earn such incomes, they are benefiting the entire economy.

We have no very reliable figures on just what gross effect this new increase in the minimum wage will have on the textile industry, but do feel quite confident that it is just another step along the inflationary road that our country has been traveling for more than 20 years.

The textile industry is peculiarly vulnerable to these inflationary pressures. It manufactures a product which is produced on a world-wide basis, and which dozens of other nations are eagerly anxious to ship over here. The higher inflation pushes our textile prices, the more we will suffer from imports from countries which have not yet pushed their prices up with inflation; and that brings up the question of:

More Foreign Competition. A recent report on the import of blouses and sport shirts from Japan indicated that in 1954, 214,000 dozen were sent to the United States. During the first eight months of 1955, 1,752,000 dozen were exported, and that rate was greatly increased during the latter part of the eight-month period. At this rate it is probable that more than 2,600,000 dozen of these items were shipped to the United States from Japan last year, or about 13 times as many as in 1954.

A great many American mills have been seriously hit by Japanese imports, and this dispatch about the sport shirt and blouse situation is merely a straw to show how the import wind is blowing. One mill which had been enjoying a very satisfactory business on a certain yarn had this entire business wiped out when the tariff was changed on Japanese products. Apparently no Japanese mill made this type of yarn, because the Japanese manufacturers of the product into which this American yarn had previously gone were buying English yarn. The American manufacturer must now switch over to something else and begin competing with somebody for another segment of the market.

While the Japanese government has imposed quotas on the exports of textile materials to the United States, and the expected flood of textiles has been checked to some extent, the spectacular rise in imports from Japan after the drop in the tariff rates has shown very clearly what can happen to us if we either cut our tariffs or raise our prices.

Japan is only one country extremely anxious to ship textiles to the United States. Some of our Canadian friends contend that their mills suffer worse from competition with India than from Japan. We have not heard of any extensive amount of Indian goods reaching this country, but India has been expanding its textile production, and there is no telling when we may hear of a disquieting amount of textiles from that country reaching this one. Most European countries have well developed textile industries, anxious to increase export business, and slightly higher American prices will help them to do it.

The textile industry does business on such a small margin of profit that a very slight shift in values can have far-reaching effects in the movement of textiles. About a year, or a year and a half ago, when American textile prices were seriously depressed and the Canadian dollar was worth about $1.04 in American money, the Canadian mills were facing ruinous competition from this country. When the Canadian dollar went back down to about par with the American, and the United States prices firmed somewhat, the flood of American textiles into Canada dropped off quickly and extensively.

This country is in an inflationary spiral, and the most ardent inflationists are the labor union people, whose one panacea for every economic ill seems to be higher wages with lower purchasing power. This in turn brings up the question of:

More Labor Union Trouble. The AFL and CIO have temporarily called off their feuding and have joined forces to see what a really big monopoly can accomplish in a country which is supposed to be opposed to monopolies. The heads of the new organization announce that one of their first and most urgent efforts will be directed at enrolling more dues payers under the banners of the various chieftains who are affiliated with the big super-monopoly. This bodes no good for the southern textile industry, which has offered about the most obstinate resistance to the satraps of the labor rackets which they have yet encountered.

There are few more lucrative enterprises than a good-sized labor union. It requires little investment and no principles. No doubt some of the leaders of labor unions are first-class people, but the entire structure of the typical American labor union lends itself so perfectly and inescapably to racketeering, that the high-class man who is fitted out with a set of principles has about as much chance in union politics as the same man would have when bucking a corrupt, big city political machine. There is lots of money in owning a labor union, and practically no responsibility.

A very interesting and valuable series of articles has been appearing in the *Reader's Digest* on this subject of labor racketeering, and we would commend our readers to careful reading of these accounts of labor union activities.

It was the labor rackets that drove the textile industry out of the northern states and into the South, and while there is no similar haven for oppressed manufacturers to fly to today, there will

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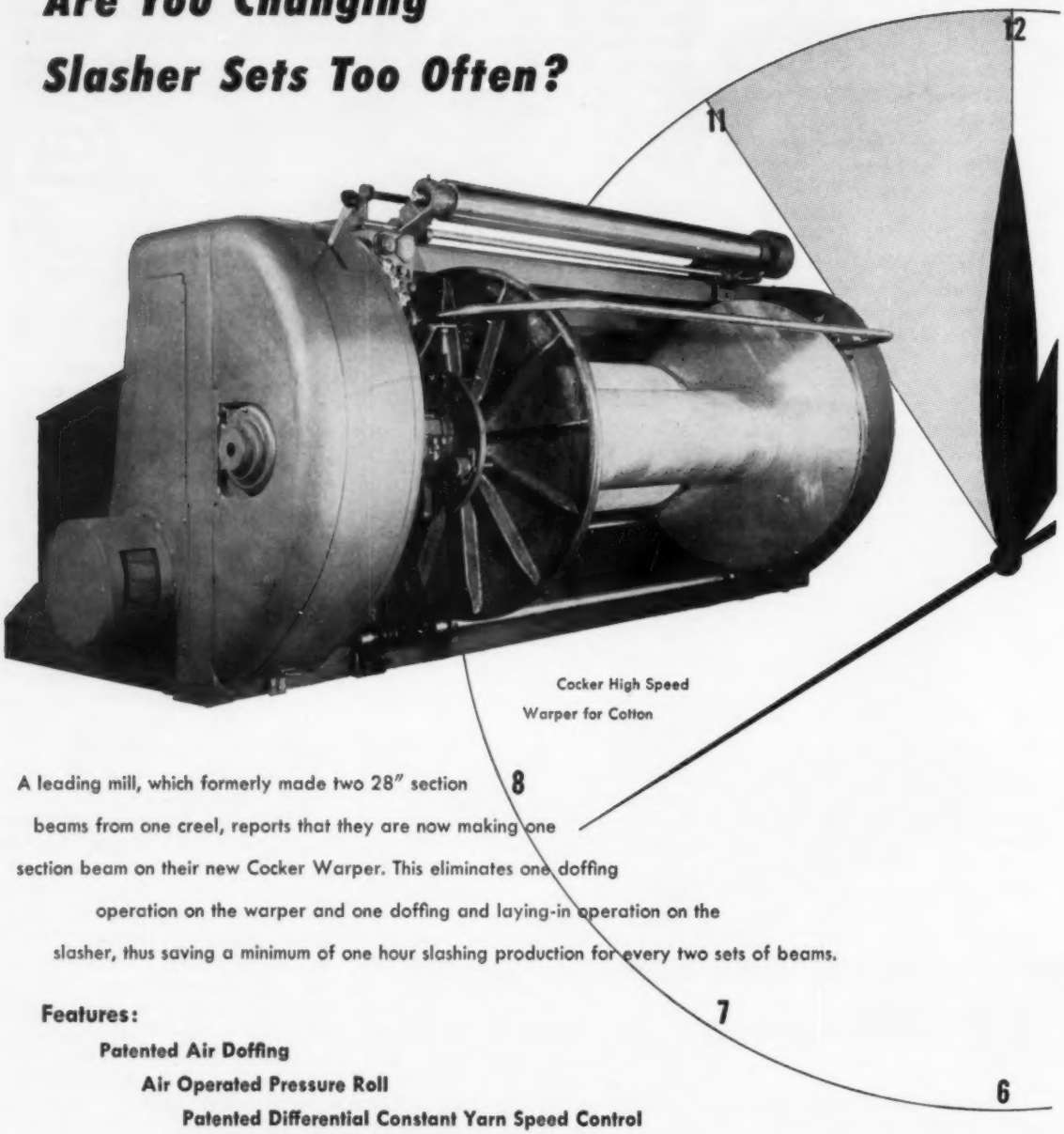

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be nothing complicated about these same racketeers destroying the textile industry in the South, and that means in the whole United States, by raising prices so high that consumer clamor will prevent raising textile tariffs enough to maintain the kind of protection which would be needed if southern textile mills have to be operated on the same featherbedding basis which wrecked the northern industry.

And Government Troubles, Too. We must not overlook the fact that government meddling can at any time complicate our problems. Some years ago our socialistic-minded government decided that the taxpayers in general should subsidize agriculture and guarantee to the farmers a nebulous economic standard known as parity. The facility with which farmers can increase the output of their products when guaranteed an attractive price may have astonished even the New Dealers themselves.

The farmers can now grow as much cotton on about 18 million acres as they once grew on nearly 45 million, and the government is stuck with more and more cotton every year. By our holding up the price artificially, foreign cotton growers have been having a field day at our expense. The Canadian mills are running mostly on Mexican cotton, which they can reportedly buy for about four or five cents a pound less than similar grades from the United States. People familiar with the Brazilian cotton situation claim cotton from that country can be produced at lush profits to sell for five cents a pound less than the United States cotton.

About a year ago a brilliant plan was conceived to help the American cotton farmer overcome this discrepancy in prices. The government would simply grant an export bounty of five cents a pound. If cotton was selling for 35 cents a pound in the United States, the government would buy it at that price and sell it for 30 cents abroad. The happy foreign purchaser would then gleefully process this cotton and have a five-cents-a-pound advantage over his American competitor in passing his goods through the American customs. This scheme benefited the farmer, overjoyed the foreign mill owner, and helped the American purchaser of the cheaper foreign goods. Nobody was hurt but the American taxpayer, who seems to be quite resilient in absorbing the punishment of adventures of this sort.

In the fall of 1955 the government authorities got tired of supporting the price of hogs, and whereas hogs had sold in 1954 for around $25 to $26 a hundred, the price plummeted down to around $10 in December 1955. It is uncomfortable to think about what would happen to the price of cotton if the government support should be withdrawn and the huge surplus in government warehouses be dumped on the market.

The present national administration seems to be trying to get away from the old tried and true socialistic schemes of the New Deal Era for solving the farm problem, but it is very hard to get away from socialistic schemes when you once become deeply mired in them. The farm problem right now is a very serious matter, and cotton is one of our most important farm products.

What happens to cotton largely determines what happens to the textile industry. If the price of cotton is artificially bolstered still further, the synthetic manufacturers are going to have a jolly time of it. If cotton is allowed to drop like hogs dropped, and the price stays down, there will probably be a lot of nice new synthetic fiber mills shut up.

Government action is the key to the price of cotton, and people who run both cotton mills and synthetic fiber mills will be profoundly affected by government policies this year with respect to cotton production and cotton prices.

All in all, it should be a very sprightly year.

How to Stop Slamming on Woolen Mule

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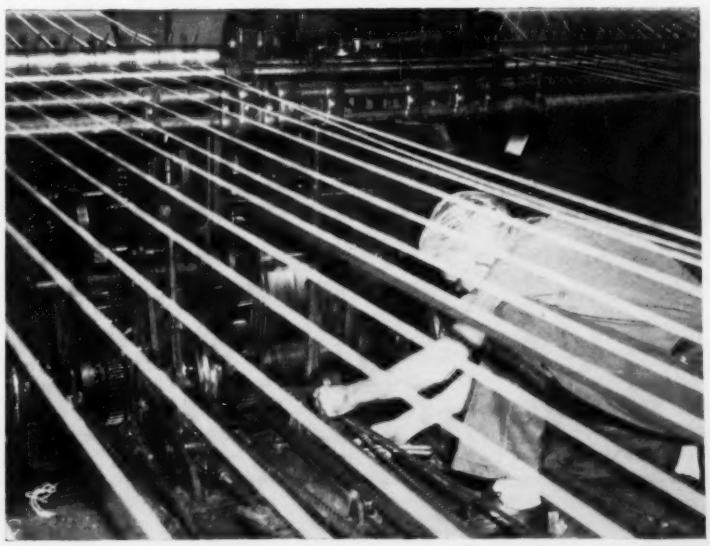
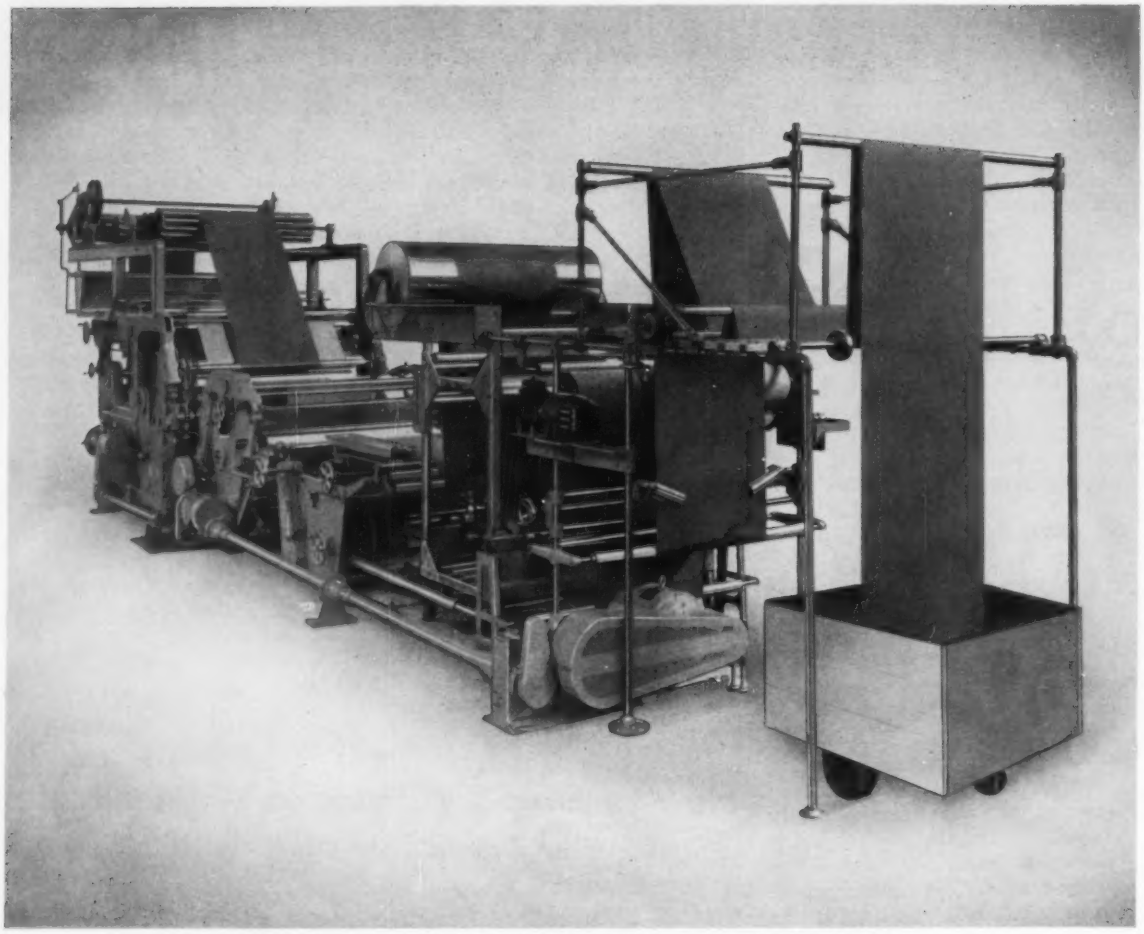
EXCLUSIVE

WHEN the carriage of a woolen mule reaches the roller beam after striking-in, it should stop smoothly. If it doesn't, the timing is off and the result is slamming.

The accompanying photograph shows a fixer adjusting the point that controls this timing—the rod cam. It should be set so that the carriage cam which meets it just touches when carriage is in.





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GEFLE MANUFAKTUR AKTIEBOLAG (Hargskoncernen) — Stroemsbro
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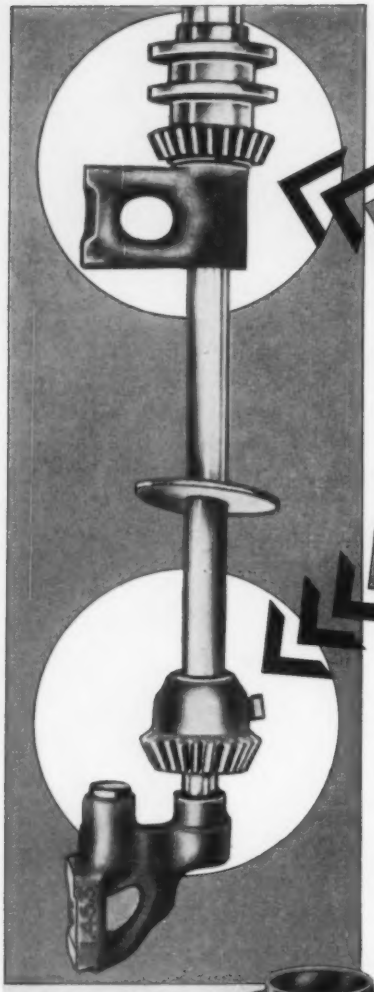
shrinkage requirements. Fabrics bearing the trade-mark "Sanforized" will not shrink more than 1% by the Government's standard test.



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These high-speed Bobbin & Spindle Gears are vitally important to the quality-conscious mill. If they do not mesh properly, uniform bobbins and even-running work are impossible. Your best replacement source is Saco-Lowell, where every gear is manufactured to the original specifications. The tough outer surface of the gears assures accurate, trouble-free operation — their quality is guaranteed by Saco-Lowell and unequalled at any price.

Substitutes **actually cost more** than genuine Saco-Lowell Bobbin & Spindle Gears. Cost-conscious mills must recognize the **high** replacement factor of these "foundry" gears. Their inferior manufacture, under normal high-speed operation, results in increased wear to these gears and other component parts.

Remember, the **initial price** for Saco-Lowell gears is competitive with any other make — in the long run they cost far less.

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HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Mills Should Build Frame For Installing Card Shafts

To facilitate installation and to eliminate the need for all but the smallest amount of cylinder and doffer shaft straightening by mills, mill machine shops should make a simple steel frame which will allow card shafts to be removed and installed without hammering on their ends.

The frame can consist of two long 1″ threaded steel rods which are inserted through the spiders and held parallel at each end by 2″ steel plates at least 6″ wide. Large hex nuts can hold the frame together. The steel plate at the larger-holed spider end — on the side opposite to the main drive pulley — needs a hole in its center to allow the shaft and its shoulder to pass through as the plate is pulled up against the spider.

Wedge tightly the space between spiders so that these cast pieces will not crack when pressure is applied.

A sufficient length of 1½″-dia. steel rod with a fine screw thread passing through the center of the other 2″ x 6″ steel plate and running parallel to the two outer steel rods, when turned with an 18″ hand wrench against the smaller end of the shaft, will exert enough pressure on an old shaft to loosen it from the spiders.

When removing an old shaft, be sure first to take out the drive pin located at the smaller-holed spider hub. At this time always indicate boldly with chalk the opposite, larger-holed spider. Then the new shaft will never be started through the smaller-holed spider first. Because there is a difference in diameter of spider holes, always *push toward the smaller-holed driving side of the cylinder when installing a new main shaft.*

When pressing in a new shaft, it is thus necessary to turn the framework around and work against the larger-holed spider, at the side-shaft side of the cylinder or doffer. Use a pilot sleeve to start the shaft bearing surface correctly at the smaller end.

Before drilling a new drive pin hole through the larger-holed spider hub, make sure the shaft shoulders are equidistant from each side of the cylinder or doffer. A flat steel gauge, extending across the drum side, can be made in the mill shop to do this final positioning. Protect the threading in the drive end of a new cylinder shaft if it is necessary to "back up" the shaft when doing this centering job.

THE WINNER!

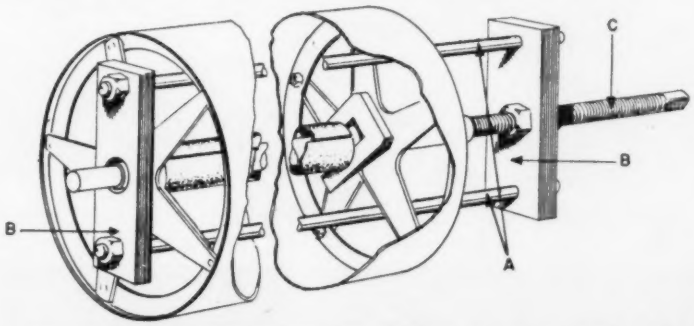
The judges have named the superintendent of a Canadian weaving mill as the winner of TI's Kink Contest ending December 15, 1955. He has been sent our check for $100.

Heavy participation in the contest by Canadians is indicated by the fact that mill men from Canada have been winners or co-winners in six of the last ten contests.

Final Truing of Shaft. To true a new shaft after installation, raise the cylinder or doffer onto solid blocks that will keep the bearings in position at all times, and will allow the assembly to revolve. With the shaft turning steadily, use an eccentricity indicator to see how much run-out (that is, amount of "off center") there is at each end.

With any indicated shaft eccentricity at top center, hammer down on the shaft, outside the bearing surface, with a lead-covered hammer or sledge until each end of the shaft is straight to within .002″ total indicator reading. It may be

(Continued on page 177)



TWO 1″ THREADED STEEL TIE RODS (A), two 2″ x 6″ steel plates **(B),** a length of 1½″-dia. fine-threaded steel rod **(C)** to use as a screw, several locking nuts, and an 18″ hand wrench are all that are needed to make a frame for removing and installing card shafts with a minimum of bending.

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(Continued from page 175)

necessary to repeat the indicator reading and shaft straightening several times at each end before the correct tolerance is obtained.

After final shaft straightening, the outside surface of the cylinder or doffer should be ground on the card until the concentricity of the shaft and the outside diameter of the drum are within the mill's tolerance. The cylinder or doffer is then ready to be clothed, lightly ground, and used. — *Saco-Lowell Repair Sales News.*

Reader Disagrees With "Silicones on Wool"

EDITOR TEXTILE INDUSTRIES:

We wish to refer to your September, 1955, issue, page 120, and to the article titled "What About Application of Silicones on Wool? How Do You Feel About a Curing Temperature of Over 250 F?"

This article mentions "Mill M," which apparently furnished you with the information which appeared in the article. The last paragraph states, "One thing to be very sure of is to avoid decating a cloth after applying a silicone. This tends to remove the silicone and its corresponding benefits to the cloth."

This is a misstatement. If a silicone resin such as our Hydro-Pruf is properly cured, decating will not remove the silicone nor its corresponding virtues.

If you will refer this mill to the Arkansas Co., we will be pleased to furnish a sample of wool fabric which has been decatized and which still has a spray rating of 100, good durability to dry cleaning, and a very desirable hand.

If a penetrant or a finish is applied to the fabric before it is decatized, this may lower the spray rating by acting as a rewetting agent, if it is not removed from the fabric either during or after decating.

C. M. BRAHAM
Arkansas Co., Inc.

HOW OTHER MEN MANAGE

Roll Change Helps in Weaving Glass

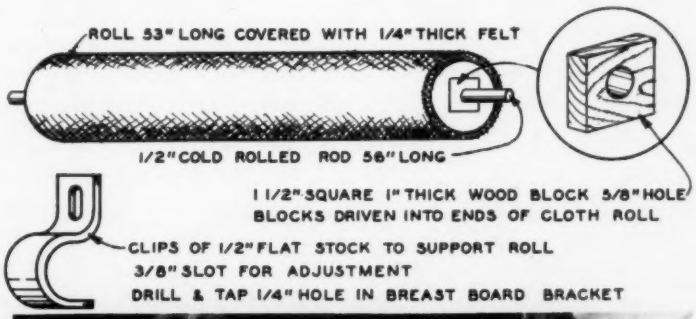
EDITOR TEXTILE INDUSTRIES:

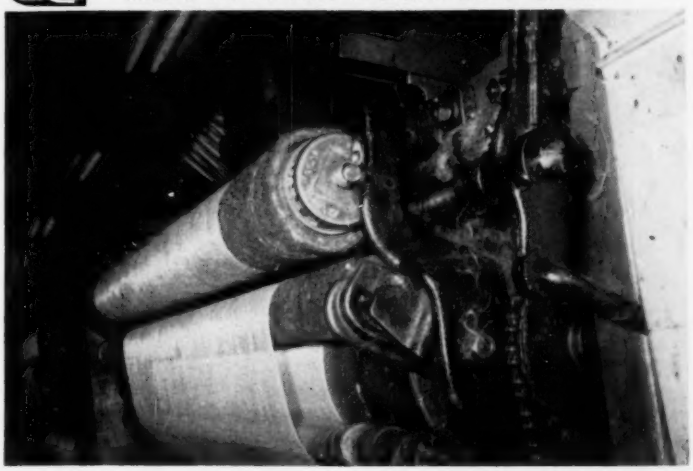
We encountered a problem in weaving 12 x 12 scrim glass fabric on XD Draper looms. We were using 150/1/0 glass yarn in both warp and filling, and the cloth was 36 inches wide. The problem was simply how to keep the cloth from becoming displaced.

I found by experimenting that when the regular XD cloth roll was covered with ¼" felt, the roll was just the right circumference to keep the cloth from touching the breast beam on top or magazine or shipper rods when going through to the sand roll.

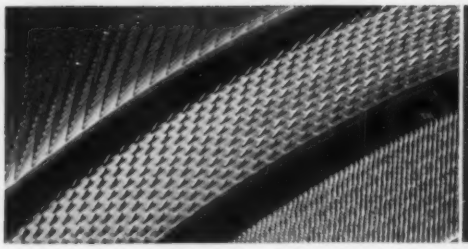
The roll was fitted as shown in the accompanying illustrations to permit it to turn easily. Now the roll turns freely and helps to keep displacement to a minimum. Also, the modification may be quickly and easily effected at little cost.

Another difficulty we had with this fabric was in making tightly wound cloth rolls. With the new arrangement we found it possible to run with a tight friction on cloth roll and still not displace the cloth. The accompanying illustration shows how the cloth clears loom parts with the new arrangement. The wood block and clip to hold the steel bar also appear in the illustrations. Parts necessary for the change are shown in the accompanying sketch.


ROLL 53" LONG COVERED WITH 1/4" THICK FELT
1/2" COLD ROLLED ROD 56" LONG
1 1/2" SQUARE 1" THICK WOOD BLOCK 5/8" HOLE
BLOCKS DRIVEN INTO ENDS OF CLOTH ROLL
CLIPS OF 1/2" FLAT STOCK TO SUPPORT ROLL
3/8" SLOT FOR ADJUSTMENT
DRILL & TAP 1/4" HOLE IN BREAST BOARD BRACKET



CONTRIBUTOR No. 8658



Ashworth Tips ON CARDING

No. 26 in a Series

THE FEED END OF CARD

1. Correct ratio of speed between lap roll and feed roll prevents stretch, and consequently unevenness of sliver. Check with card builder for correct gearing, should you experience difficulty.
2. Check surface of feed plate. Be sure it is smooth and free of oil. Rough spots can be smoothed with oil and emery cloth.
3. Nose of feed plate should be free of any irregularities that interfere with setting to gauge end to end.
4. See Tip No. 25 for recommendations on card feed rolls.
5. Set selvage guides so that lap delivered will measure from 39¼" to 39½". Never permit lap to double over on selvages.
6. The lickerin is the most important cleaning unit on your card. Be certain it is equipped with sharp wire, free of bruises or damaged teeth, and that it will set to gauge from end to end and all around its circumference.
7. Lickerin screens should be of the correct contour to fit your lickerins, and should be kept clean. Screens that will not set to the gauge should be discarded.
8. Mote knives must be straight, with working edges free from nicks, burrs and rough places. Brackets should be installed in pairs for exact alignment of mote knives and to permit of setting to the gauge all the way across the face of the lickerin.
9. The scavenger roll on the feed roll should always be completely covered with a good grade of napped fabric, to properly control draft between lickerin bonnet and feed roll.
10. The lickerin cover should fit properly, and the make-up piece between lickerin cover and cylinder back plate should also be an exact fit — all of this to better control the blowing out of stock at these two points.
11. The lickerin shafts and shrouds should be checked periodically for wear, and the lickerin bearing cap should always be securely tightened.
12. The quality of your carding starts at the back of the card, and too much attention cannot be given to all of the above.

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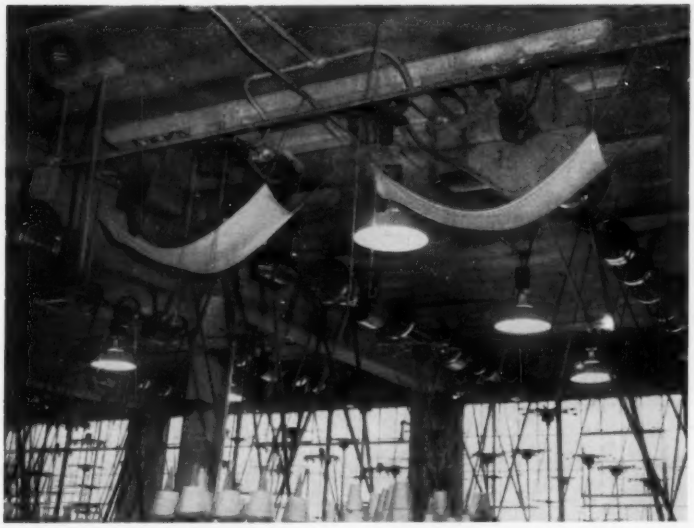
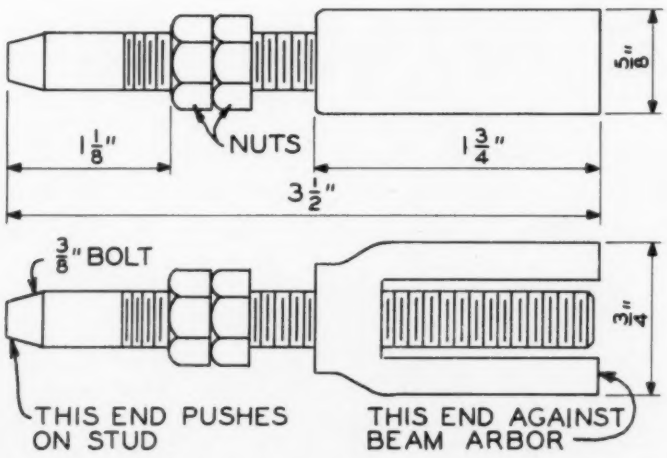
Fabric Provides Drip Protection



ONE body knitting mill protects fabric quality by using fabric hammocks under regular drip pans on overhead shafts. These fabric hammocks serve as an extra precaution to prevent excess lubricants from falling on knitting machines and cloth being knitted.

The absorbent material readily shows a drip or location of leaking lubricants so that corrective action can be taken.

How to Make a Beam Lock Stud Pusher



EDITOR TEXTILE INDUSTRIES:

Here is a drawing of a beam lock stud pusher designed and made at our mill.

The buckle end is placed against the beam arbor, and the opposite end pushes on the stud. By turning the two half-inch nuts together the stud is pushed without it being necessary to take the warp from the loom.

CONTRIBUTOR No. 8831

HOW OTHER MEN MANAGE

A Mill Designer Discusses Samples

EDITOR TEXTILE INDUSTRIES:

Making samples is an expensive and difficult, although essential, operation in any mill. We still find this to be true, even though we have a fully equipped sample department, with an ample number of looms; complete carding, spinning, slashing, and other supplementary machinery; as well as a complete dyeing and finishing set-up. Even so, there are occasions when new yarns or fabrics have to go through regular production channels, and this always involves considerable confusion and trouble to all concerned.

An almost essential need for a grey goods mill which must frequently run samples through regular production is a good sample man — one who is well acquainted with the mill and its equipment, can get along with all the overseers and the other people involved, and can devote most of his time to following the work through the mill.

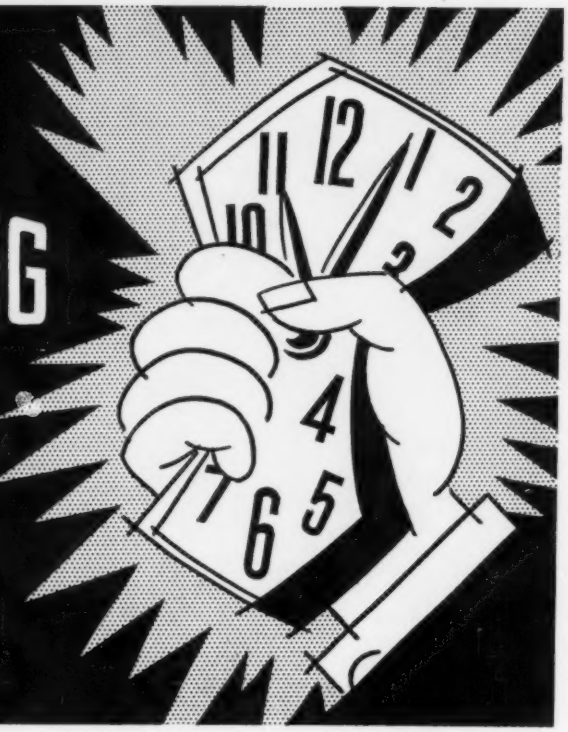
When only a few pounds of sample yarns are wanted, it is often possible to bypass the openers and pickers. The stock should be carefully mixed and blended by hand on a table or other suitable place. A card should be selected, carefully cleaned of all waste, freshly ground, and if necessary the settings should be changed.

It is quite feasible to feed the sample stock directly to the card, thus producing the required card sliver. This sliver should then be divided into equal portions and passed through the drawing operation.

If roving and yarn of the required numbers are already in production, the sample stock can be put through along with it. The sample should be carefully watched, however, or it may be

(Continued on page 185)

SHRINKING TIME



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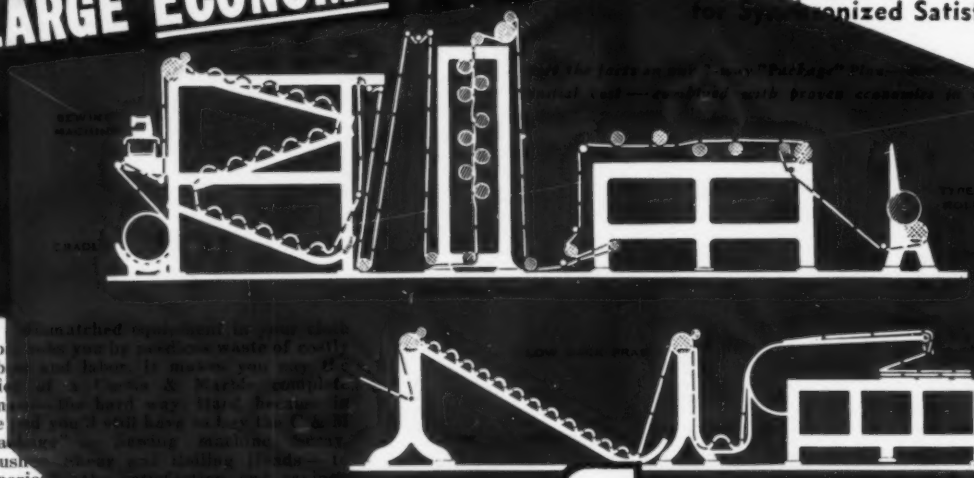

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- ★ Greater efficiency—operates with as little as one gallon of oil, filters the old oil and returns it for further use, or flushes out the old oil and replaces it with all new oil.
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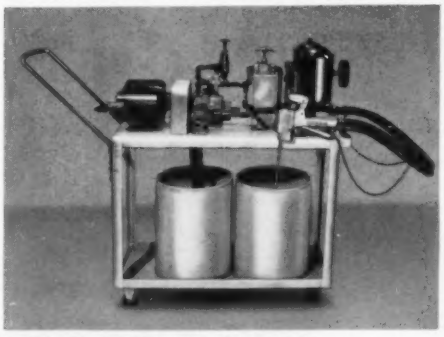

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- *liquid*
  - easy to use

DERGOPAL C

for WOOL, NYLON and ACETATE. Effective for processing top, stock, yarn and piece goods. Produces sharper contrast between white and colored patterns in checks, plaids and tweeds. Eliminates yellow cast of wool and synthetic fibers.

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Also useful in bleaching, often allowing reduction of the amount of bleach in the bath.

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used in the same manner as Dergopal B and for the same fibers and fabrics when a definite BLUE-WHITE is required.

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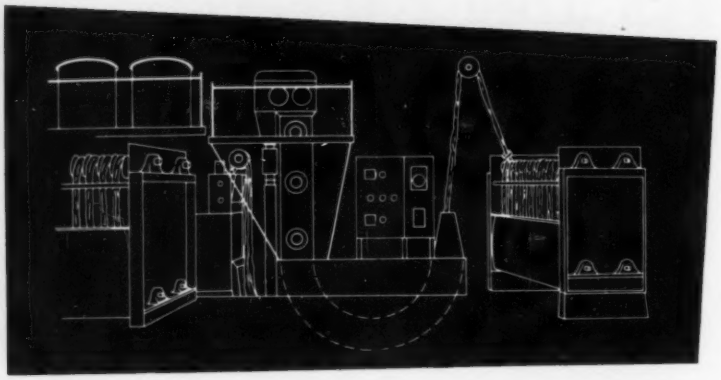
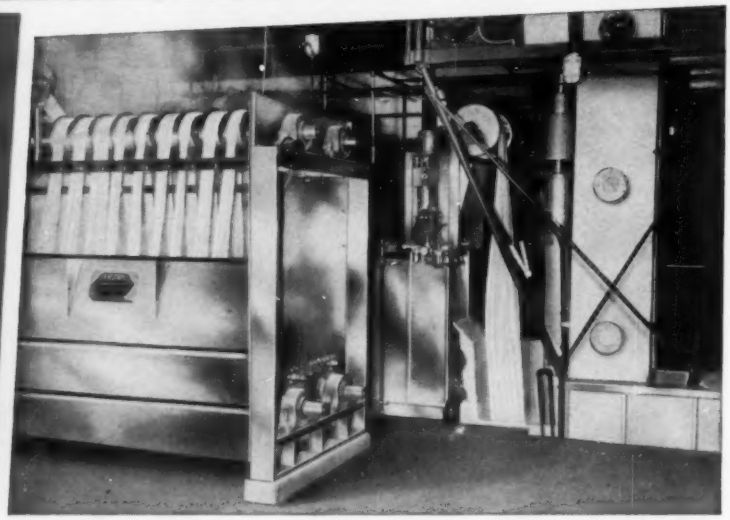


AT BATES MANUFACTURING CO.



Drawing shows U-shaped plan of Rodney Hunt Bleaching Rangette in Edwards Division of Bates Manufacturing Co. at Augusta, Me. Greige washer at left, saturator behind, J-box and heater tube in middle with control panel mounted over loop of the J; white washer at right. The range is operating on the new DuPont "single stage" bleaching system.

Edwards Division of Bates Manufacturing Co., Augusta, Maine, uses a Rodney Hunt Bleaching Rangette* for the DuPont "single stage" continuous processing of soft-filled sheeting.

Rodney Hunt engineers worked closely with Bates and DuPont in adapting this equipment to the "single stage" process. Bleaching operations are conducted in a room only 38′ x 63′. The Rangette is installed on a U-plan, 35′ wide and 19′ long. Almost three-quarters of the room remains for working, drying and storage space.

Rodney Hunt Bleaching Rangettes—in both Becco and DuPont types—can be counted on to deliver the efficiency and quality of a large-size bleaching range in operations up to 1500 pounds per hour; the Rangette bleaches 3-ounce goods at 100 yards per minute and 10-ounce goods at 30 yards per minute. Component units include various sizes of J-boxes, saturators and the notably efficient Tensitrol® washers. Write for Catalog 103 for full details and dimensions.

**Rangette is a trademark of Rodney Hunt Machine Co.*

RODNEY HUNT®

RODNEY HUNT MACHINE CO.

65 MILL ST., ORANGE, MASSACHUSETTS, U. S. A.

QUALITY WET FINISHING EQUIPMENT SINCE 1840

Making Samples

(Continued from page 179)

"lost in transit," only to show up later as seconds in the cloth room. If the hank roving and yarn counts are new, it will be necessary to set up roving and spinning frames to make the required yarn. Naturally only a few spindles on each machine need be used; the others remain empty while the sample is running.

The foregoing will produce a few pounds of yarn that are entirely satisfactory for sample purposes. If a sample piece of fabric is wanted, not necessarily the full width of the goods, this yarn can be wound and made up as a section beam, which can be slashed and then drawn in as a section or portion of the loom beam, the balance of the warp being of regular yarn. This will permit the weaving of a correct sample part-width of the goods, the balance of the cloth being cut off and discarded.

If only a short length of sample, only a few inches wide, will be enough, the following method may be satisfactory: A quantity of the sample yarn can be wound on an ordinary yarn reel or similar device and sized by dipping in the size box of the slasher or even in a bucket of size.

This reeling should then be cut into one length and tied in by hand in the middle of a warp already in the loom. Naturally the sley, reed, and weave of this loom will have to be chosen to fit the sample desired. The other end of the reeling should be tied to a weight sufficiently heavy to maintain proper tension.

With care, a sample several inches wide and up to a yard in length can be woven in this manner. This sample can be desized and bleached by hand, ironed with an ordinary household iron, and should produce a sample entirely acceptable for preliminary use.

If full-width sample yardage is wanted, I do not think there is any practical way of bypassing the mill's regular warping and slashing, if no special equipment is available. In this case the work is best assigned to the sample man, who will have to fit it into the production schedules of the various departments as best he can.

If very much sample work is to be done, I strongly advise that a certain amount of special machinery be set aside for the purpose.

CONTRIBUTOR No. 8839

Scouring With Crypto-Anionic Surfactants

THE DETERGENT value of anionic surfactants is often limited by their instability to caustic soda, sulfuric acid, calcium, and other cationics, in scouring, wetting out, and bleaching. Here are four mill case histories in which a new development, Sandopan DTC*, is used to prevent instability under such conditions.

The surfactant, an ethylene oxide condensate, is crypto-anionic, i.e., it contains anionic groups in the molecule, but reacts in many instances as a nonionic substance.

Bleaching and Boil-Off of Cotton Half-Hose. Use of the crypto-anionic surfactant allowed one mill a reduction from a two-stage to a one-stage operation:

Formula

1.00% Sandopan DTC
10.00% hydrogen peroxide, 100-volume
4.00% sodium silicate
0.25% Leucophor B

Procedure. Bath is started at 120 F, brought to 180 F, and kept at this temperature for 1 hour and 15 minutes.

Dyeing of Highly Twisted Cotton Yarn Packages. Because a highly twisted 36/3 combed Sak yarn shrank to a hard package upon contact with warm water, cross overs on the packages remained undyed with direct, D & D, and vat colors. The mill often rewound and dyed a second time to overcome this. Level dyeing was achieved by prescouring as follows:

Formula

0.75% Sandopan DTC

(Continued on page 187)

*Sandoz Chemical Works, Inc.

KINK CONTEST!

$100 will be awarded the winner

Send your entry now! This contest ends April 15, 1956

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1956.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to: Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

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— AND WOOLENS THAT WEAR

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Kleinbark III is as proud as a post in his latest in hound's tooth — she in her Park Avenue nylon print.

Pride in workmanship and quality in textile finishing is *more* than a satisfaction of company tradition these days . . . it's turnover at the shelves and orders in the book; *money* in the bank!

That's why, at Swift, we're not *resting* on a 50-year tradition of selling soap to the textile industry, we're constantly adding to our line and our service facilities to better meet your day-to-day requirements — *by service.* There's a Swift's Soap for your woolen or synthetic finishing job regardless of your water temperature. And there's one for use where fine dyeing calls for gentle, yet complete scouring. There's one for you to use *wherever* fine fabrics need the *right* treatment!

Write for details on any of the Swift Soaps listed at right and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

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Here are a few:

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Low titer (8-12°C) removes troublesome contaminants quickly in silk, wool, cotton and synthetic fiber operations.

WHITE RIBBON (Chips or Powder)

For use in high temperature operations. 41-42°C titer. Highest quality neutral soaps.

T-25 FLAKES

Designed for the Textile Industry. Contains special blend of low titer distilled red oil and lard fatty acid base. Excellent for scouring and fulling operations.

SOAP DEPARTMENT S-17
4115 Packers Ave. Chicago 9, Illinois

Swift
101 ST YEAR

To Serve Your Industry Better

Scouring

(Continued from page 185)

1.00% soda ash

Procedure. Boil-off for 30 minutes, then add dissolved dyestuff. In one case this included 3.0 per cent Diazamine Brilliant Scarlet 2BL and 0.1 per cent Diazo Red 9BL, developed with beta naphthol and exhausted with 10 per cent common salt.

Scouring 40-Denier Dull Nylon in the Burlington Machine. Nylon cloth containing considerable graphite, oil, and floor dirt required a double scouring in the mill. The same goods were scoured clean in one scouring as follows:

Formula

0.5% Rinfors S
0.5% Sandopan DTC
1.0% caustic soda

Procedure. Run in Burlington machine for 30 minutes at 250 F, followed by application of an optical brightener.

Scouring of Dull and Semi-dull Nylon Tricot.

Formula

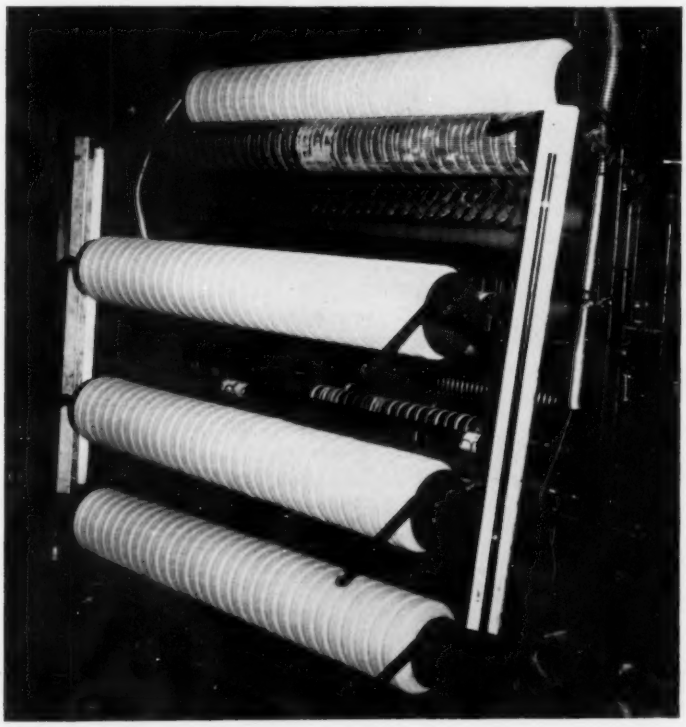
1% Sandopan DTC
1% TSP
2% Rinfors S

Procedure. Scour in open dyebeck for ½ hour at 200 F.

Fluorescent Tubes Improved Lighting At Tape Condensers

THESE two fluorescent tubes, mounted on mill-made stands, have given wool carders a better look at what is going on in the condenser.

The two light stands, installed on all condensers at Fine Fabrics Inc., Worcester, Mass., are movable and free of any connection with the frame of the condenser. This innovation increases the life of the tube by minimizing its contact with vibrating parts; it also provides a cool light and eliminates the danger of a flash fire in the card set, as can happen when an incandescent bulb breaks and its exposed arc ignites the stock.



HOW OTHER MEN MANAGE

What Is Recommended Hardness of Slasher Rolls?

EDITOR TEXTILE INDUSTRIES:

What is the recommended Shore hardness for rubber rolls for slasher service? Should this be the same on the front and back rolls, or should it be different? Is the same hardness recommended for all types of yarns and sets, or does this vary?

CONTRIBUTOR NO. 8827

Referred to sources of information—Eds.

EDITOR TEXTILE INDUSTRIES:

"Sizerite" cotton slasher roll covers have a hardness of about 40-45 durometer.

The density would normally be the same on the front and back rolls, and the same hardness would be recommended for all types of yarns and sets.

F. L. PHELPS
Stowe-Woodward, Inc.

EDITOR TEXTILE INDUSTRIES:

One rubber cover manufacturer claims that rubber covers of 50 to 55 Shore durometer give the best result on slashers. That is about the softest rubber that will stand up under the pressure; otherwise, softer rubber would be used.

Generally, the rubber cover on the slasher squeeze rolls is the same on both entering and leaving rolls, although the entering roll could be harder if desired.

We understand that the same hardness of rubber cover is recommended for all yarns and sets except filament warps, on which a rubber cover of 65 Shore durometer is frequently used.

CONTRIBUTOR NO. 8828

EDITOR TEXTILE INDUSTRIES:

Although conditions vary con-

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on either of these U.S. Acme machines . . .

U.S. ACME VERTICAL SPOOLER

cleans, oils and winds in one high speed operation

U.S. ACME
2-lb. DOUBLER TWISTER
for prime twisting and oiling, as well as doubling

PACKAGE RESTRICTIONS ARE NO LONGER A PROBLEM . . . now you can produce any of the four types of packages pictured above on either of these U.S. Acme machines! Let market requirements change—when you're equipped with U.S. Acme Vertical Spoolers and/or Doubler Twisters, you're ready to change from one type package to another!

Whether it be

- CONVENTIONAL BOBBINS for twisting . . .
- BOTTLE-BOBBIN PACKAGES for doubling and twisting . . .
- DOUBLE-TAPERED PIRN PACKAGES for fine denier knitting yarns (eliminate coning) . . . or
- DOUBLE-TAPERED PIRNS for fibre glass processing . . .

these U.S. Acme machines are fitted for the job!

Both the Vertical Spooler and Doubler Twister have new, perfected builder motion units that make this yarn package versatility possible.

Write or phone for complete information, let us show you how you can benefit from this flexibility!

THE HOME OF U.S. ACME MODERN THROWING EQUIPMENT

U. S. TEXTILE MACHINE CO. • SCRANTON 8, PA.

siderably from mill to mill, we have found that 60-65 Shore hardness (durometer reading) of rubber rolls is satisfactory for most types of yarns and fibers.

We do not adhere to the popular belief that proper squeeze can be controlled by varying pressure on the rolls, regardless of roll density. Excessively hard rolls may easily damage yarns upon applying too much pressure to dress the yarns.

After considerable experimentation we concluded that 60-65 durometer rolls satisfy a major portion of mill requirements and leave little to be desired. Of course, the manufacturers make the rolls to any desired or specified hardness to customer order.

CONTRIBUTOR No. 8843

Detergent Makes Lab Solution Self-Cleaning

EDITOR TEXTILE INDUSTRIES:

In the average textile control laboratory a great deal of time has to be spent in cleaning equipment between operations. Since the greatest portion of such equipment consists of glassware, which is often expensive, the possibility of breakage is greatly increased by such handling.

Just as in the home before the advent of the automatic dishwasher, the greatest amount of breakage of glassware in the laboratory occurs during cleaning operations. Furthermore, lack of efficient cleaning between uses is often the cause of serious error in the results of analysis.

As a practical example, the writer was having a great deal of trouble with erratic results in serial analysis of peroxide bleach baths, in spite of the fact that the most modern equipment (automatic burettes) was installed and the standard solutions were completely enclosed before, during, and after use, and the same equipment was used all the time for this purpose.

Investigation showed that the standard solutions tended after a while to act as if the inside of the glassware were water-repellent, and the irregular drops forming on the walls caused erratic results. Permanganate and sulfuric acid solutions in particular showed this, and required complete taking apart and cleaning overnight, followed by reassembly and check test, for accurate results.

This trouble is entirely overcome by adding a measured but very small amount (usually 0.001 cc per liter) of a 100% nonionic ethylene oxide condensate, such as Igepal C, to all standard stock solutions. This addition to standard solutions such as the above will render them "self-cleaning," and avoid troubles due to water repellency, while at the same time not interfering with the accuracy of the analysis.

This principle may be applied to all solutions normally employed for lab tests; and where foam is undesirable, a similar quantity of octyl alcohol may be made up together with the detergent. This makes the test solutions themselves into detergents; time and trouble are saved at almost no extra expense.

CONTRIBUTOR No. 8835

Change Gear Replaces Pulley to Regulate Woolen Card Worker Speed

A positive, easily changed drive for woolen card workers is shown in the accompanying photo as it is installed at J. A. Humphrey & Sons Ltd., Moncton, New Brunswick, Canada.

Replacing the standard type of worker drive which originates at the doffer, transmitting power to the driving belt through a pulley, this innovation allows a speed range for workers of from 7 to 20 rpm through change of a gear. The old method required that the doffer drive pulley be changed, with some degree of inconvenience.

The gear train shown here includes a driving gear placed on the main cylinder shaft, a carrier, the change gear; and, on the same shaft as the change gear, a pulley driving the belt which drives the workers. In this set-up the worker drive belt is never touched.—*Staff.*

When You Need Freedom of Movement

. . . you'll need Arrow Latch Needles for your knitting machines. Only the *finest quality knitted wear* comes from machines equipped with these needles — because you're *assured* of free latch movement, a strong latch, a finish that's mirror-smooth. Isn't it also reassuring to know that the mark "Arrow" on Latch Needles, Sinkers, Sliders, Jacks, and Leaded Assemblies means that Textile's half-century of industry *service* backs up their manufacture and sale. As for delivery? Prompt . . . from stocks in Reading, Pa., Asheboro, N. C. and Manchester, N. H.

Arrow Latch Needles

Wire Products Division

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the difference is

LANASEAL*

THE HOSIERY WONDER WORKER

here's what LANASEAL does for full-fashioned and seamless

- Adds beauty and comfort to nylons.
- Makes hosiery go on and off legs easier.
- Improves dulling.
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When used on either the Dunn System or on conventional boarding, LANASEAL makes pairing easier. When used with belt or tray drying, it eliminates sticking.

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"HOW!"—This man is wondering how he can get needles for top-quality tufting. Silly, isn't it, when practically everybody knows one can get top-quality needles for tufting, felting, knitting *and* sewing from...**THE TORRINGTON COMPANY.**

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ATTENTION KNITTERS

Articles in this issue of special interest to personnel in the knit goods industry are the following:

Purchasing for the Textile Industry 117

Fabric Provides Drip Protection 179

Quality Control in a Half-Hose Mill 193

Making Stretch Hose? Watch That Air Conditioning! 197

New Equipment Parade 201

Complete contents listed on page 3

Knit Quality Control in the Half-Hose Mill

BY RUDDELL REED, JR.
Assistant Professor of Industrial Engineering
North Carolina State College

EXCLUSIVE

QUALITY CONTROL in many hosiery mills traditionally has been a matter of inspecting goods after knitting and before shipment to remove defective goods. In many cases, relatively little attention has been given to the determination of economical quality, maintainable quality, or even a clear definition of quality.

Too often the situation has been that of a group of individuals, poorly coordinated and each doing his job, consistent with the standards he feels are applicable. This has probably been due to the difficulty in coordinating a group of individual inspectors to hold standards which do not lend themselves to physical measurement.

The first difficulty in maintaining good quality is probably the practice of paying personnel on a piece rate dependent primarily upon the quantity of goods handled. This method may be good for production personnel, but must be supplemented in inspection to prevent sacrifice of quality maintenance for quality handled. To obtain this quality maintenance we must first establish more definite standards of quality; and secondly, guarantee the maintenance of these standards during the inspection operation. This is the first problem in many mills.

Setting Up Standards. Establishment of dimensional standards for size and length is relatively easy. Trade standards have been established for most of these. Maintenance of these standards must take place at the machine as the responsibility of the knitter or fixer. It is not profitable to maintain a check of each sock, but only of machine setting. This can be accomplished by having a size check made on the machine every hour or two. Additional checks may be made at the boarding and pairing operations to determine if goods are deviating from standard. This has been accomplished in most plants.

The real difficulty is in establishing and maintaining quality standards based upon structure and pattern. These are factors which are difficult to explain by dimension or description. Too frequently these standards are left up to the individual inspector, the inspector being limited only by the complaints voiced by the knitters. This means that there may be as many quality standards as there are inspector and knitter combinations.

One effective means of overcoming this indefiniteness of standard is to utilize a sample board. This board should be so constructed as to allow display of both acceptable and unacceptable goods, preferably in such a position that like styles may be easily comparable. The board or boards should be located so they are available to all knitters and inspectors. The boards should be maintained continually and changed as standards of quality may change. The board should be reviewed at regular intervals and brought up to date. Any changes should be marked in such a manner that they are readily discernible to personnel utilizing the board.

Maintaining Standards. After the establishment of standards, the next problem is to obtain consistency with these standards. To do this the first problem is to coordinate all knitters and inspectors

in the maintenance of the standards. Maintenance of quality standards by knitters is accomplished by grey goods inspectors. To be assured of proper quality we must also have some means for measuring the inspectors. This is best accomplished by utilizing a recheck inspector behind the inspectors.

The recheck inspector should obtain random lots from each of the inspectors and use these lots to measure inspector performance. To encourage accuracy by inspectors, a bonus may be offered for quality work.

One means of measuring the inspectors is by means of so-called "quality accuracy levels." The basic theory behind this means of measurement is the utilization or disposition of bad work as a measure of the accuracy of the individual inspector. Quality accuracy being the ratio of the net amount of bad work properly disposed of, to the total amount of bad work present. Expressed by formula:

$$\text{Quality Accuracy} = \frac{\text{Bad work found by inspector} - \text{good work found in inspector's bad work}}{\text{Bad work found by inspector} - \text{good work found in inspector's bad work} + \text{additional bad work found by reinspection}}$$

As an incentive to the inspectors for maintaining a high quality accuracy a bonus should be offered for accurate work. The quality accuracy level at which a bonus is paid should be high enough that some effort will be required to reach it, but low enough that it can be reached by at least 25 to 50 per cent of the inspectors. The writer has found this level to be about 85 per cent. However, this will vary with the individual plant, dependent upon the variety and type of goods produced and the personnel involved.

Improving Quality. After the establishment of definite quality standards and the establishment of accurate inspection procedures, attention may then be given to obtaining and maintaining high levels of knit quality.

There are three major factors to consider for improved knit quality:

(1) The yarn and other material going into the sock.

(2) Maintenance of knitting machines.

KNITTING SIZE CHECK. At regular intervals, the production of each machine is checked on size board for size errors; required machine adjustments are then made.

(3) Quality awareness on the part of knitter and fixer.

Considering first knitting machine maintenance, the problem is to obtain accurate information on the performance of each machine as compared to the other machines in the plant and in the industry. An effective way to obtain this check is to have a card assigned to each machine, preferably attached to it, on which the fixer indicates the cause of bad work being produced by the machine, and the downtime for the machine.

This, of course, is effective only if maintained. Supervision can see that it is. The foreman should check each machine card at least once a day and initial it. At least once each week the foreman should make a more detailed visual analysis of the cards, this last to be followed by complete analysis against compiled expected performance. The data required by the card must be completely recorded at the time the bad work is discovered by the knitter or fixer.

Another machine problem is to get the machine cut off when it begins making bad work. This requires that the knitter cut off the machine whenever two pieces of bad work are found for any reason between fixer checks. In some cases the machine should be cut off on the first bad sock. In any plant with a large number of machines, continuous operation of all machines is generally an indication of bad quality. Machines must be down to be maintained properly.

The second problem, the yarn being used, may also be improved by this machine card technique through discovery of poor lots of yarn and poor sources of supply.

Any plant should have some means of inspecting yarn upon its arrival. One common method is to check one cone per case for strength, weight, etc. The initial data are then supplemented by the data obtained on the machine record card as to the action of the yarn in actual production. This should be checked constantly, especially for cases where one yarn may be satisfactory in one instance, but unsatisfactory in another. Yarn should not become an excuse for the fixer, however, but should be accepted as a cause of bad product only after all other factors have been eliminated.

After control of machine maintenance and materials used has been accomplished, standard and consistent manufacturing conditions may be maintained or assignable deviations denoted. Economical, maintainable quality standards may then be established.

How Much Inspection? The primary purpose of inspection after knitting is to maintain consistency and proper quality in the goods coming off the machines. The major problem generally is consistency. Agreed, that if bad quality goods are knit, the subsequent operations cannot in most cases correct them to first quality work. However, one hundred per cent inspection is not required to determine this consistency or per cent bad work.

The measure of level of performance in knitting may be determined by a properly devised partial inspection system, to which is applied statistical concepts to measure over-all performance. The amount of inspection required may be determined from statistical rules and formulas. This may need to be supplemented initially, how-

Knitter 137 FIXERS' REPORT
Fixer 93 Week Ending May 30, 19—

Mach.	Check						
P 47	Style	2119					
Shift 2	Down Time	25min					
Body Drop Stitch							
Bent Latch							
Broken Hook		III					
Broken Sinker		I					
Bad Yarn							
Welt Cut Ktn.							
Welt Drop Stitch							
Transfer Hole							
D. Sole Misplait							
Elastic Out		I					
Button Hole							
H & T Drop Stitch							
H & T Cut							
Pattern Cut		I					
Pattern Misplait		II					
Single Sole							
TOTAL		8					

FIXER'S REPORT (MACHINE CARD). Fixer indicates cause of any stoppage by marking proper space. One column is provided for each production day of the week. The card is checked and initialed daily by the foreman, collected and analyzed weekly.

ever, to allow acceptance of the system within the plant.

The primary objective is to assure that the knitting operation is consistent within reasonable and expectable quality levels. We are not concerned with acceptance of goods, since there is further processing to be performed within the plant. Therefore, we may apply statistical process control methods rather than acceptance sampling techniques.

The above could be best accomplished by maintaining records on individual machines. However, due to the large number of machines generally involved, and the necessity for the knitters and fixers to maintain continual check on goods as they are removed from the machine, this type process control is not practical. We can, however, establish a method of random sampling which will obtain a check on goods from a set of machines producing the same style. This group basis is a more practical approach to process control.

Because of the variety of faults which may be present in the goods, and the difficulty of establishing fixed tolerances for acceptance, the data are best gathered and recorded on the basis of defectives. In most cases, utilization of per cent defective rather than number of defectives is most applicable, because of lot size variations in goods handled. Control limits can then be established based upon per cent defective control chart theory.

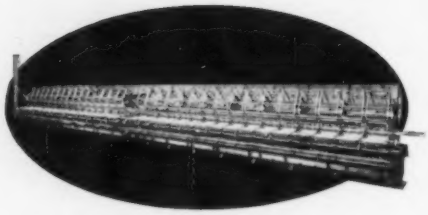
To aid in reducing clerical work required, first determine range of lot sizes to be encountered. Next, establish limits based upon those lot sizes which will allow overlap between 10 per cent, or less, deviation from basic lot sizes. Since all lots then fall within 10 per cent of the average within the individual basic lot range, usable control limits may be set up in table form and referred to, in order that each lot may be classified in or out of control immediately without individual lot calculation.*

Such limits should be reviewed quarterly and corrected if necessary. Initially, review may be required even more frequently until

SIZE CONTROL AT BOARDING. Large deviations from nominal size are determined as sock is pulled on size board. Minor variations are matched in the pairing operation.

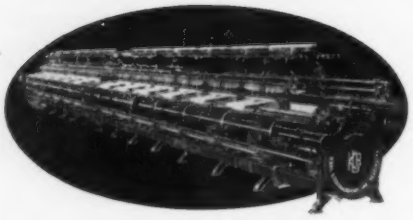
Machinery for the Textile Industry

by Lieberknecht



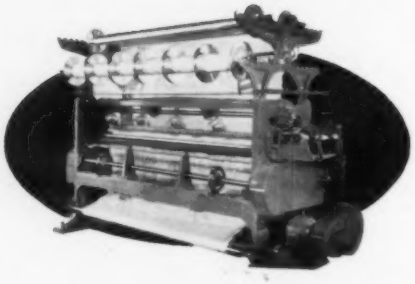
THE LIEBERKNECHT 32 SECTION HIGH SPEED AUTOMATIC... heading a complete line of full-fashioned machinery for hosiery manufacturers. There is a machine for every manufacturer according to his needs, wants and desires of his customers, from 39 gauge to the *predominant 60 GAUGE* and the finer 66 and 75 GAUGE. Non-run attachment is available on all machines up to and including 60 gauge.

For those manufacturers whose customers demand the finest, many mill operators agree that the Lieberknecht machine has been the answer to improving their competitive position because of the savings realized in higher production of fine quality hosiery.

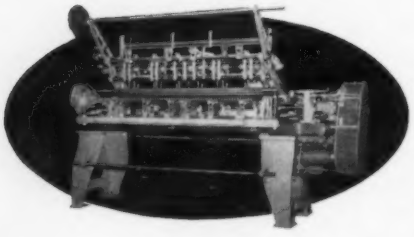


THE FULL-FASHIONED SWEATER MACHINE . . . built entirely new from the floor up and designed expressly for sweater and outerwear manufacture. Incorporated in the design of this machine are many extra features . . . Central Control for convenience . . . V-neck Attachment for versatility . . . Filling-in Points for finer appearance . . . *and* many other profit promising "extras".

The standard machine is built in 21 gauge 12 sections with 30 inch needle-bars. Other gauges and sizes are available to special order.



THE RASCHEL-TYPE WARP KNITTER . . . lending itself to a limitless range of fabrics and designs, may be geared to knit any kind, quality, size or denier of yarn. Among the many fabrics produced are girdle fabric, tulle, laces, netting, carpets and many specialities. This ruggedly built machine is capable of knitting 100 inch fabrics at high speeds. It is available in all gauges, single or double needle bar, and with from 2 to 8 guide bars.



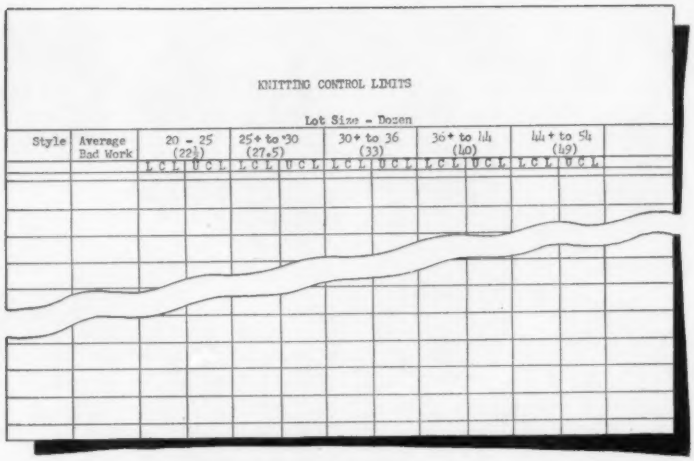
THE QUILTING MACHINE . . . a high-speed, multiple-needle machine for stitching together all types of quilting fabrics available in 47, 58 or 94 inch width, with other sizes to special order. This machine is widely used for linings, robes, pads and a host of other articles where quilted fabrics are desired. A variety of attractive designs can be produced.

WRITE TODAY for detailed information. We have available specially prepared brochures on each of the four lines of Lieberknecht machinery. Simply drop us a line and specify the booklet or booklets you want.

Karl Lieberknecht, Inc.

READING, PENNSYLVANIA

Auto-Welt Full-Fashioned Hosiery Machines • Full-Fashioned Sweater Knitting Machines • Warp Knitting Machines Quilting Machines



KNITTING CONTROL LIMITS. Master control sheet for use in maintaining lots in and out of control. Upper figure under "Lot Size—Dozen" indicates range of lot size covered by given limits. Figures in parentheses indicate nominal lot size (in dozens) upon which limits are based. "LCL" indicates Lower Control Limit; "UCL" is Upper Control Limit.

averages begin to level off and remain constant.

After establishing control limits, each lot may be compared to its proper limits. For any lot falling outside control limits a cause for improper quality must be established. Some common causes may be improper machine settings, poor yarn, improper gathering of lots, misunderstanding of limits, or many others. The correction of these causes and the prevention of their recurrence is a management and supervision responsibility. Any action necessary must be taken as soon as practical after the occurrence to reduce further lots being processed.

The results of such a program as outlined above, when properly installed and maintained, will bring about the following benefits:

1. Reduction in defective goods knit.
2. Improved accuracy of inspection.
3. Better coordination of objectives between knitters, fixers, and inspectors.
4. Reduced inspection cost.
5. Sound basis for establishing budget allowances for quality.
6. A basis for establishing quality bonuses for personnel, if so desired.

*The following references are recommended in determining the number of samples required and the method used to set up control limits:

1. Burr, I. W., "Engineering Statistics and Quality Control," McGraw-Hill Book Co., 1953.
2. Duncan, A. J., "Quality Control in Industrial Statistics," Richard D. Irwin, Inc., 1952.
3. Grant, E. L., "Statistical Quality Control," McGraw-Hill Book Co.

Making Stretch F-F Hose? Watch that Air Conditioning!

By HENRY EASON
EXCLUSIVE

PRODUCTION of stretch hosiery requires exacting control of the air conditioning system in the full-fashioned knitting department — a slight variation in either the temperature or humidity will seriously affect the elasticity, or flexibility, of the stretch yarns used in knitting, and will tend to nullify the stretch characteristics of the finished stocking.

Properties of Stretch Yarn. To understand why exact control of air conditioning is essential for this special type of stocking requires some knowledge of stretch yarn properties, and also some knowledge of knitting machine operation.

Several different types of yarns are used in manufacturing stretch hosiery, but at present 15-denier nylon is the most commonly used in the super-twist, sheer category. The "stretch" of this yarn is not strictly a result of elasticity in the usual sense, but is obtained by extremely high twist in the monofilament yarn. If such a yarn is magnified until each turn of twist is visible to the naked eye, a length of yarn resembles a coiled spring.

The high-twist method imparts very decided stretch properties to the yarn, allowing it to become greatly elongated when pulled lengthwise, but it also has the ability to return to its original length when the stretching force is released.

In a properly conditioned room, the stretch imparted to the knitted stocking is further increased by using two-carrier knitting. By this system of knitting, alternating courses of left and right twist yarn are knitted into the stocking fabric; the zig-zag pattern of alternate return-bend loops, formed on the precision knitting mechanism, allows a vast amount of stretch in all directions in the knitted fabric.

However, when the stocking fabric is stretched, it requires some time before it will relax completely into its original size or shape; so the newly knitted stocking must remain in the air conditioned knitting department, or similar space, for at least eight hours before further processing can take place, since the yarn has been under slight tension during the knitting operation.

If the stretch stockings are taken from the conditioned room, and then are immediately steam preset or hot water dipped, the tend-

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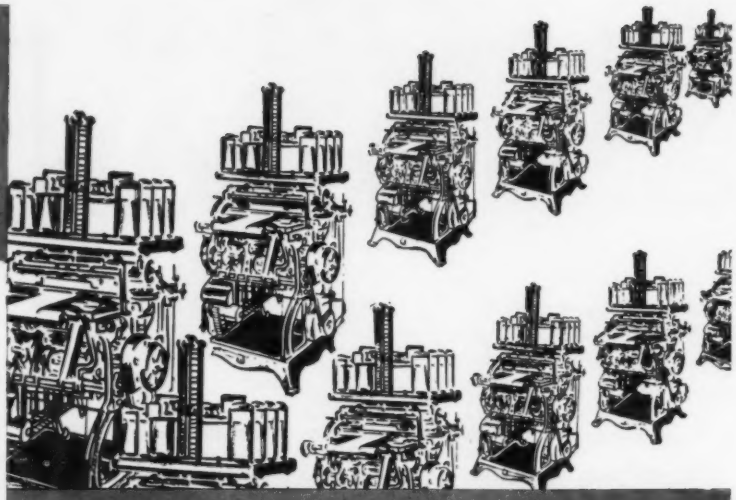
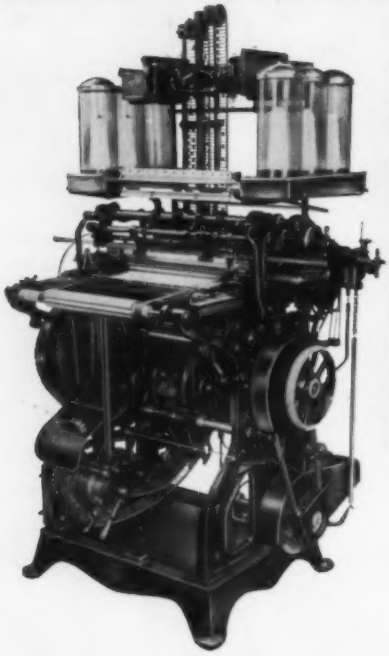


30 WILDMAN 75s . . . ONE OPERATOR . . .



That's the 75 **GAUGE FULL-FASHIONED HOSIERY MACHINE**

From a production standpoint the Wildman 75 is a proved money-maker—not only in numbers, but in the consistent high quality of its product . . . a better stocking, a longer-wearing stocking—beautiful to see, lovely to touch *and easy to sell!*

With 7 and 10 denier, the 75 produces a tighter stitch that resists snagging and gives the elasticity for that smooth, all-over fit smart buyers demand . . . If you're interested in a market leader Wildman 75 gauge single-head full-fashioned machines merit your immediate attention. Inquire for complete details today.

WILDMAN

makes the machines that tend to their own knitting.

WILDMAN MFG. COMPANY, NORRISTOWN, PA.

MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

ency is to nullify their desirable stretch characteristics. They will also be difficult to seam, because of uneven selvages; finish boarding will be unsatisfactory, because of resulting uneven lengths and sizes in a lot of hosiery being processed; and the much-stressed perfect fit of the stretch stocking will certainly be lacking.

Equipment for Air Conditioning. Not only are nylon and other types of stretch yarn susceptible to temperature and humidity variations, but precision knitting machines are also adversely affected by lack of uniform air conditioning. The basic conditions, considered as optimum by most hosiery manufacturers, are control of temperature at 82 F, and maintenance of 50% relative humidity.

For knitting uniform stretch stockings, we use the chill water type of conditioning. This system is designed to deliver sufficient air to cool the conditioned space to an average temperature not exceeding 80 F, with an average 50% relative humidity in weather having a dry bulb temperature not higher than 95 F, coincident with a wet bulb temperature not higher than 78 F; and to heat the space to a temperature not exceeding 80 F, with an average relative humidity of 50%, in weather having a dry bulb temperature not less than 10 F.

This system of air conditioning automatically washes and humidifies the air and heats it or chills it, depending upon atmospheric conditions. When properly controlled, it aids in getting high efficiency in the knitted production, and also contributes to employee welfare and comfort.

The recirculated water for the sprays comes back to the pump suction through a set of screens; these screens are located in the incoming air side of the dehumidifier tank, and are subject to becoming clogged, thereby shutting off the supply of water to the pump. When this happens, the room temperature rises and the relative humidity lowers, causing the stretch yarns used in knitting to become dry and unmanageable. The remedy is to remove the screens and clean them thoroughly with a hose and water or steam, before replacing them.

The screens should normally be checked every eight hours to assure a constant flow of water to the pump suction, and the water in the spray booth should be changed often enough to insure cleanliness. The baffles should be kept free of algae and other types of slime by using steam or other approved cleansing agents. The make-up water control should be kept in good working order so as to supply adequate water to compensate for evaporation losses, which amount to 90 gallons per hour during peak load.

The distribution fan has oil-ring bearings, which are lightly lubricated every week but are checked daily as a safety precaution against damage. All pumps, fans, and motors are checked on a regular schedule to insure proper lubrication and cleanliness; pump motors are ball-bearing and are lightly greased every three months with approved lubricant.

Trouble Shooting. However, in spite of all precautions taken through the preventive maintenance schedule to avoid air conditioning trouble, there are times when such emergencies do arise. For instance, the knitting room temperature may drop a few degrees and the humidity rise rapidly, thereby causing the stretch yarns to become sticky and counteracting the slight but uniform tension so necessary in knitting top quality stretch stockings.

The first step taken is to read the temperature and humidity recorder in the knitting department, and note the variation; next, the case is opened and the air pressure is read on the supply gauge, which should record 15 pounds. If this is correct, the reading is noted on the line gauge; if the reading is 15 pounds, a closed reheat steam valve is causing the trouble. It must be opened by adjusting the room thermostat. Usually a very slight adjustment will open the steam valve by lowering the line pressure; 15 pounds is fully closed, and 2½ pounds is fully open. The thermostat adjustment should only be moved about ¼ turn at each trial until the correct setting is obtained.

Although the recorder is read hourly, or oftener, by supervision, there are rare occasions when both the temperature and humidity rise suddenly, causing contraction and expansion of the long section knitting machines; this has the effect of throwing the various shafts and intricate knitting mechanism out of alignment, thereby impairing the quality of the knitted stretch stockings from one or more machine sections.

The quickest remedy is to check the air supply compressor. Some of the causes of trouble may be as follows: a blown fuse, open overload relay, burned out motor, or faulty belt. On one occasion the supply gauge read 17 pounds, but the line gauge read zero; the trouble was located in the diaphragm of the reducing valve. A ruptured copper tube in the supply line also gave the same indication of trouble, and cleared up when the tubing was repaired.

Sometimes the humidity is correct, but the knitting room temperature drops a few degrees and causes narrowing menders and press-offs on all knitting machines, or on just a few sections producing stretch stockings. In this case, the dew point controller must be adjusted; the trouble is caused by changes in heat load and the unusual infiltration of dry air into the knitting room.

The tubes forming the cooling coils in both the chiller and the condenser will accumulate deposits of dirt and scum, which will gradually reduce the operating efficiency of the entire refrigeration system. When this does occur, the covers of the chiller and condenser should be removed, and the copper coils thoroughly cleaned with a soft brush and running water from a hose. We clean the upper and lower water boxes at the end of every cooling season.

The present air conditioning system has been in use in our knitting room for the past few years. By following the simple maintenance procedures outlined in this article, the system has been kept at top operating efficiency, and the exacting air conditioning required for knitting stretch stockings has been at optimum.

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Make Stretch Yarns in One Operation with this New Machine

The Universal Superloft Stretch Yarn Machine combines into one continuous process what was previously a seven-step operation. A 216-spindle machine will produce over 400 pounds of 70 denier stretch yarn a week.

On the Superloft machine, raw yarn is made into stretch yarn by first going through a tension and then a set of feed rolls. From the feed rolls, the yarn passes over

a heating element and then through a "false twist" spindle. Twist imparted by the spindle is set in the yarn while it is in its heated, plastic state, and then removed again after the yarn has passed through the hollow false twist spindle. The yarn retains a permanent crimp or wave which gives it the stretch characteristic. Finally the finished yarn is taken up onto a spool.

Due to the single process operation, the yarn has the added advantages of cleanliness and extreme uniformity.

The manufacturer also offers the services of its newly created yarn evaluation department to mills making stretch yarn.

Universal Winding Co., P. O. Box 1605, Providence, R. I.

Do you want more data? Write ◂ or use card on page 215; list B-101

Combination Yarn and Latch Stop Motion for Circular Knitting Machines

The Edley Electro-Magic Stop Motion has been adapted for use on Hemphill SCP and SCOP machines, as well as on Scott & Williams wrap reverse, HH, K, and spiral types, and on Chell and Booton 400-needle machines.

It is both a yarn and a latch stop motion. The latch stop motion is suspended from the carrier ring and is so constructed as to control the machine at all four knitting points. The yarn stop motion is mounted on the take-up bracket and serves to control all yarns on the machines, including the rubber, in case of breakage or running off the cone.

Use of the stop motion reduces to a very great extent seconds, thirds, waste, and needle breakage. There is also a considerable saving in downtime since crack-ups are virtually eliminated.

The Edley Machine Co., High Point, N. C.

Do you want more data? Write ◂ or use card on page 215; list B-102

Absorption Machine Provides Cooling From Steam

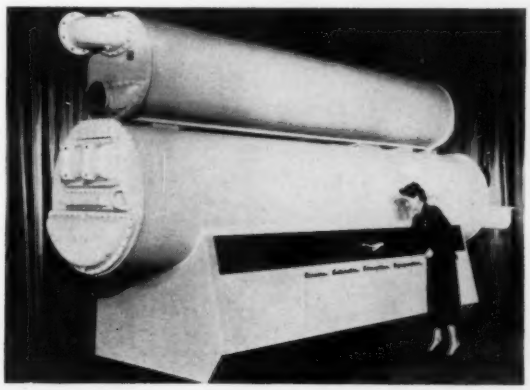
A new line of large-capacity, automatic "push button" absorption refrigerating machines which produce chilled water from steam was announced recently.

Available in a full range of sizes from 100 to 700 tons, the absorption units are used in air conditioning and process cooling systems, have no major moving parts, and employ plain water as the refrigerant. They can be controlled by a time clock, thermostat or push button.

The machine will adjust automatically from full capacity down to zero load, and back to full load again, with little loss in efficiency.

Overloading will not hurt it. In the event that cooling beyond design capacity is required, the machine will continue to operate, delivering additional tons of refrigeration, at a higher than design temperature level. There is nothing about the unit that can be damaged by overloading.

Due to the minimum number of moving parts and the light weight of the equipment, these quiet and vibrationless machines can be installed on rooftops or upper-floor



locations in office buildings, hospitals, apartment houses, and similar structures. They can be placed high on the steelwork of an industrial plant close to the process where cooling is required.

The machine is also ideally suited to outdoor installation in any section of the country. It is particularly

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Specify "TEFLON" WIPERS

On all Air and Hydraulic Cylinders

Benefits To You

"TEFLON" Rod Wipers and "TEFLON" Hydraulic Piston Rod Seals withstand temperatures from—100°F. to plus 500°F. They are impervious to practically all known chemicals, including the fire-resistant, special, and standard hydraulic fluids in current use. ***Available from Miller at no extra cost.***

Specify TEFLON HYDRAULIC ROD SEALS

On all Hydraulic Cylinders

Specify RUST RESISTANT SURFACES

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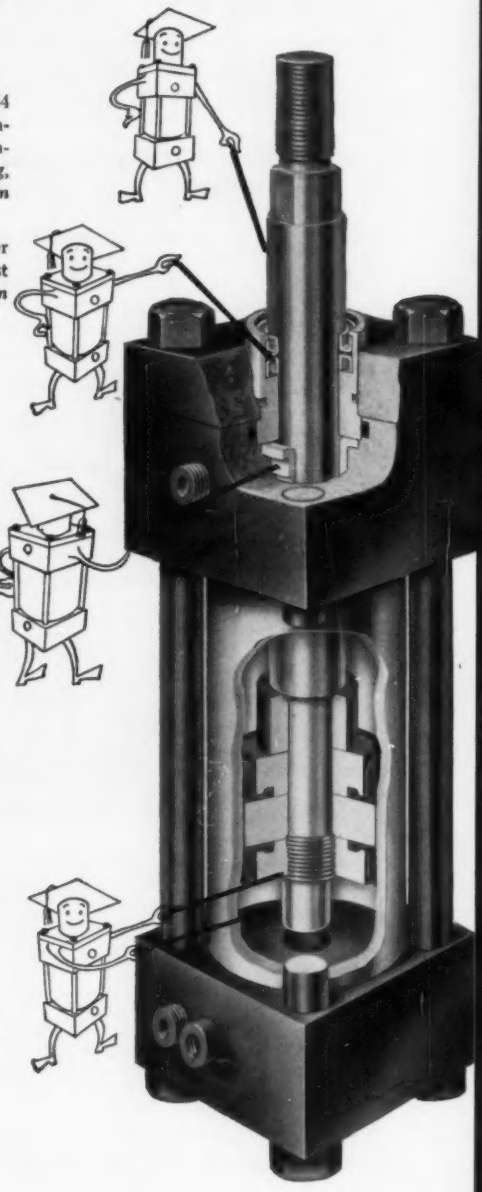
Highest quality Black Ferric Oxide Finish provides rust protection in air cylinder operation and on all cylinders during shipping and installation.

Cylinder heads, caps, mountings, pistons, followers, tie rods, and the unplated portions of the piston rods have this finish ***at no extra cost on all Miller cylinders.*** (This finish not recommended for water service)



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economical to operate wherever a low-cost source of heat, such as natural gas, is available to provide steam. Low pressure steam may also be obtained from back pressure turbines or from exhausts from various processing operations. This waste steam may be used to provide chilled water at little operating cost.

Although steam is most generally employed, any hot fluid, such as hot water, oil or chemicals, may be used to generate cooling in this Carrier unit.

The new design eliminates many of the major service lines and all of the external auxiliary piping normally assembled at the job site, thus substantially reducing the time and cost of installation.

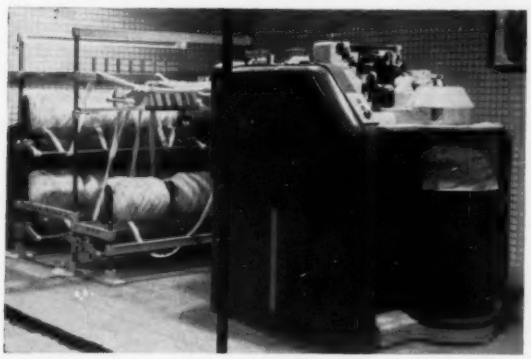
Carrier Corp., Syracuse 1, N. Y.

Do you want more data? Write ◂ or use card on page 215; list B-103

High Speed Gill Box Features Sliver Uniformity

High production, improved sliver regularity, high operating efficiency, and ease of operation are provided by the Speed-o-Gill, an intersecting gill box manufactured by Prince-Smith & Stells, Ltd., of Keighley, England, and available through an agent in the U.S.A., for shortened systems of manufacturing worsted type yarns.

Six different models are made, three of which are



equipped with the Raper Autoleveller, a mechanism that measures the variations in thickness of the slivers fed to the gill box and automatically varies the draft to compensate for this and produce a sliver of constant thickness (see TEXTILE INDUSTRIES for December, 1954, p. 85; also May, 1955, p. 112).

Long staple synthetic fibers, blends of wool and synthetic fibers, and 100% Merino and fine crossbred wools containing up to 2% of combing oil (processed on the French system) may be accommodated on this machine. It can handle slivers coming directly from the comb or top supplied by commission combers. In a shortened set of drawing for synthetics and blends, it may be used for the first two or three operations, and in the French system for the first operation of drawing, or as a combing finisher.

The number of faller drops per minute can range from 700 to 1000; linear speed can range between 218 and 312 inches per minute. No back draft is employed, and range of front drafts is from 6 to 12.

Electrically operated stop motions stop the machine and signal the operator with green, amber, and red lights respectively when (1) a sliver fed into the machine breaks or runs out, (2) sliver delivered to coiler breaks, and (3) predetermined length of sliver is delivered to can.

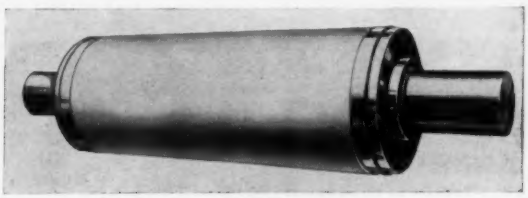
Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

Do you want more data? Write ◂ or use card on page 215; list B-104

Improved Pressed Roll for Finishing Machines

A new, impoved pressed roll for use in such finishing machinery as water mangles, embossing calenders, and chasing calenders is marketed under the trade name of Butterworth "Dura-Smooth" Roll.

Long life, unchanging performance characteristics, and



maximum uniformity from one lot to the next are advantages to be derived by use of this roll. Exactly the right degree of hardness and smoothness are insured for every pressed roll need.

"Dura-Smooth" rolls are furnished new or refilled. They cannot loosen or slip, since they are locked on a forged steel shaft under controlled pressure.

Among the various types available for economical finishing are standard cotton rolls, and special cotton rolls for heavy-duty friction work. Also, special combination rolls for chasing calenders; standard combination rolls for plain calendering; special husk mix rolls for water mangles; wool felt rolls for silk and embossing and schreiner work; and special cotton and wool rolls for schreiner work.

H. W. Butterworth & Sons Co., Bethayres, Pa.

Do you want more data? Write ◂ or use card on page 215; list B-105

Card Clothing Reduces Downtime

Card clothing manufactured by A/B Kardbeslag, Norrkoping, Sweden, is now available through an agent in the U. S. A. Called "Non-stripping," it offers these advantages: less production time lost in stripping and grinding, more uniform sliver and consequently more uniform yarn, fewer neps and other faults in the web.

The fillets are suitable for carding any length of cotton or synthetic fibers up to 3" and will work equally well with all types of cotton.

Oliver D. Landis, Inc., 718 Queens Rd., Charlotte 7, N. C.

Do you want more data? Write ◂ or use card on page 215; list B-106

Combination Yarn Has Many Uses

A new combined yarn incorporating Metlon and Du Pont's thick and thin rayon has been introduced for weaving in many fields.

The rayon is made in 1100 and 2200 deniers to create a richly textured doupioni effect. It may be combined with either standard quality Metlon or Metlon with "Mylar,"

The mill that needs **NEW SCREENS** *and doesn't buy them is paying for them anyway in*

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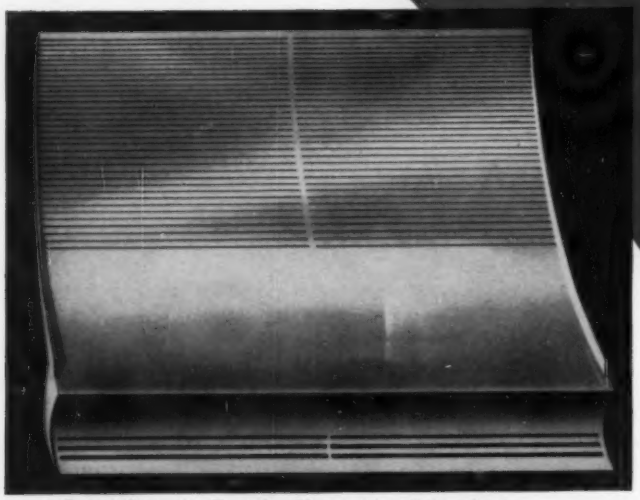
Check the waste under your cards. If good spinnable staple is mixed in with moats and trash, this loss will soon amount to more than the cost of Jenkins' new, improved screens. Slotted or perforated, Jenkins Card Screens are precision engineered with "patented" features for perfect setting at every point to eliminate costly waste, give you higher production and cleaner, more even carding.

If you are using inferior or damaged screens, you are PAYING RIGHT NOW for the new Jenkins' screens you don't have. Write or call today for complete information on the superior quality that has made Jenkins first choice of the industry.



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JENKINS

METAL SHOPS, INC.

GASTONIA, NORTH CAROLINA

Du Pont's polyester film.

Extremely luxurious in appearance, the combined yarn is especially suitable for drapery and casement cloths. It will also add a new dimension to wearing apparel goods, notably in fabrics designed for skirts, jackets, and stoles.

Since both yarns have excellent dye characteristics, an extremely wide range of color choices is possible for every use. This combined product may be used either in the warp or filling, making it possible to achieve innumerable textured effects. Of special interest is the fact that the metal runs parallel to the rayon.

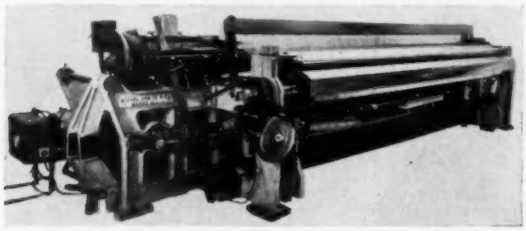
Metlon Corp., 432 Fourth Ave., New York 16, N. Y.

Do you want more data? Write ◂ or use card on page 215; list B-107

Carpet, Tapestry, and Jute Looms Permit Insertion of One Wire to Every Pick

Carpet, tapestry, and jute looms manufactured by Fonderies et Ateliers de Constructions Michele Van De Wiele, S. A., of Marke, Belgium, are now available to American mills through an American agent.

Produced in sizes up to a 26-ton model that weaves a carpet 15 feet wide, the Van De Wiele looms offer higher



speed, less downtime, and more convenience features. A patented feature permits insertion of one wire to every pick.

One of the types of looms is designed to weave jute backing for tufted carpets and is available in 168" and 210" models.

A complete inventory of parts for these looms will be maintained in this country.

American Safety Razor Corp., Industrial Products Division, Staunton, Va.

Do you want more data? Write ◂ or use card on page 215; list B-108

Motor-Operated Oiler for All Types of Machines

The "Electromatic" oiler, a precision lubricating device originally designed for circular knitting machines but now adaptable to any type of machine, works independently of the machine to which it is fitted; thus, it allows the oil discharge to be predetermined irrespective of the diameter, speed or mechanical construction of the machine.

The oiler minimizes any possibility of localized action, the oil being discharged in individual drops and distributed evenly all around the circumference of the machine.

It is operated by a very small electric motor which operates on any voltage; the motor operates a vertical shaft; a small pin mounted horizontally causes a discharge of oil to be made whenever it comes in contact with a lever inside the oiler. This allows the oil to rise in each of the capillary tubes, from which it is transmitted to the machine parts to be lubricated through transparent plastic tubes. Frequency and rate of discharge are set in accordance with the particular requirements of the machine.

Little attention is required by the device. The container holds enough oil to provide lubrication for about 200 machine hours under average conditions.

Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y.

Do you want more data? Write ◂ or use card on page 215; list B-109

Simplify Cloth Inspection with this Machine

The Durrant Mercury Cloth Inspection and Measuring Machine provides a simple, mechanical cloth inspection table that is sound, sturdy, and efficient; requires little floor space; and is easily operated.

Some of the features of the machine are: Adjustable legs to make table height suit operative; quick action—positive stop; adjustable angle of table—horizontal to 60°; three speeds—easily changed; clutch drive; streamlined side frames rigidly braced; two-wheel measuring instrument; roll to roll and plait to roll.

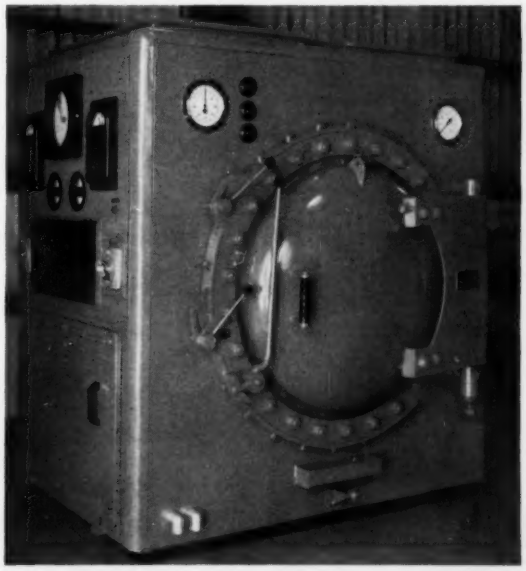
R. J. Dealy & Sons, 263 Summer St., Boston 10, Mass.

Do you want more data? Write ◂ or use card on page 215; list B-110

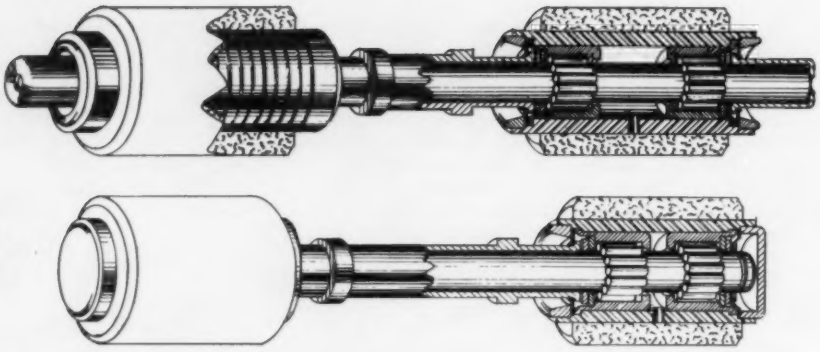
Machine Automatically Sets Twist in Synthetic Yarns, Crimp in Tow

Recently introduced for the setting of twist in synthetic yarns such as nylon, Orlon, Dacron, etc., and also for setting crimp in synthetic tow prior to cutting was the H. W. Q. machine manufactured by Sanderson & Co. (Textile Engineers) Ltd. of Manchester, England. It is now available to American mills through a representative in the U.S.A.

Designed for automatic operation at any temperature



from 170 F up to 298 F, the machine prevents waste of yarn due to faulty setting since predetermined conditions are positively controlled—once it is set to operate at a given temperature and time, the machine will repeat the



Years-

WITHOUT REGREASING . . . COLE PRECISION ROLLS ARE *GUARANTEED TROUBLE-FREE!*

Grease is *Sealed in;*
Lint is *Sealed Out.*

WARRANTY:

1. Every Cole Precision Top Roll is guaranteed to have a weighting capacity of 150 lbs.

2. Every Cole Precision Top Roll is guaranteed to have a shaft eccentricity not exceeding .0015".

3. Every Cole Precision Top Roll is guaranteed to permit cot buffing not to exceed .003" as to eccentricity, run-out or taper.

4. Every Cole Precision Top Roll is guaranteed against choking, entry of lint or loss of lubricant, and it requires no periodical cleaning and relubrication.

5. Every Cole Precision Top Roll is guaranteed against mechanical failures of any kind for a period of five years, under a policy that is easy to understand:

   A. Any Cole Roll that becomes inoperative, regardless of cause, within 12 months will be replaced with a new roll (less cots) without charge.

   B. Beyond 12 months, any Cole Roll that becomes inoperative, regardless of cause, will be replaced with a new roll (less cots) at one-sixtieth (1/60) of the price for each month the discarded roll was in service.

COLE ENGINEERING CORPORATION
FOURTH AVENUE AT THIRTY-SECOND STREET
COLUMBUS, GEORGIA

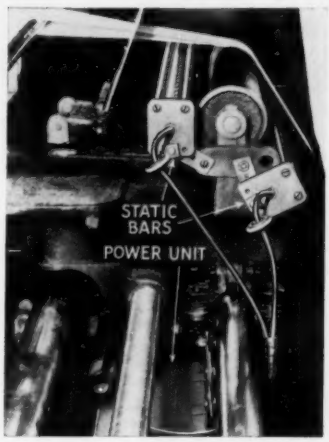
exact operation for each successive batch.

Vacuum conditions are such that penetration is thorough and quick, providing uniform results throughout the packages and reducing time required for the operation. The "Quicklock" door closure system reduces to a minimum the time required to unload and load the machine.

R. S. Anker-Simmons, Lowell Rd., Concord, Mass.

Do you want more data? Write ◂ or use card on page 215; list B-111

Powerful, Shockless, Static Eliminator for Warpers



Simco Type HE Shockless Static Bars have been adapted for application to horizontal warpers.

Principal advantages of using the eliminator are that it completely stops the flying of ends, prevents the overlapping and entangling of adjoining section edges, does away with warp section marks, and permits closer spacing of the sections.

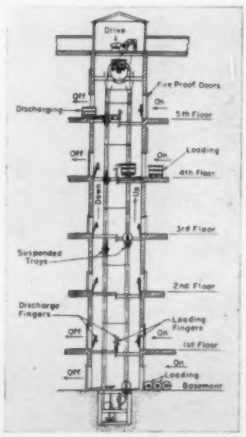
The complete equipment consists of two static bars and a midget power unit. One static bar is located to treat the warp ahead of the section roller and the second is located between the roller and the reel. The midget power unit is mounted on the moving carriage.

The bar produces no shock even when the points are touched. It can be used safely in the presence of inflammable solvents and in hazardous operations such as the carding and garnetting of cotton.

The Simco Co., Lansdale, Pa.

Do you want more data? Write ◂ or use card on page 215; list B-112

Interfloor Conveyor Doubles Transfer Speed



A fast tray-type interfloor conveyor that automatically loads, transfers, and delivers heavy loads between as many as six floors was announced recently. It is designated for use in warehouses, textile mills, and other installations where long interfloor transfer hauls of heavy loads present serious handling and cost problems.

Resembling an elongated ferris wheel in its transfer sequence, the fully automatic system consists of: a tray-type elevator conveyor, with trays spaced 25 feet apart between two parallel roller chains; loading and unloading entrances at each floor, on opposite sides of the conveyor shaft; safety fire doors, side-sliding or up-sliding, at each entrance; automatic loading and unloading "fingers" at each station; and a complete set of operating and safety controls.

In operation, trays pick up loads from entrances on one side of the shaft, carry them over the top and down to the predetermined discharge station on the other side of the shaft. Trays move at a speed of 48 fpm, driven by a hydraulic electric unit housed at the top of the shaft.

In order for the conveyor to operate, only one door on the load side and one on the unload side may be open. When ready to start transfer sequence, operator at the unload station pushes a signal button indicating that unload fingers are in receiving position.

At the loading station the operator pushes the "start" button, which moves the conveyor tray into loading position. Loading fingers automatically move the load onto the tray. The loaded tray then moves up the shaft, over a series of chain sprockets at the top of the shaft, and down the other side.

Unload fingers at delivery point are in receiving or "down" position; all unload fingers at other floors must be in "up" position. Load is removed from tray and deposited on platform at designated unload station. An electric eye mechanism at each unload station prevents pile-up of loads at platform; if passage is blocked by other loads, the electric eye stops the movement of the elevator and prevents unload until passage is cleared.

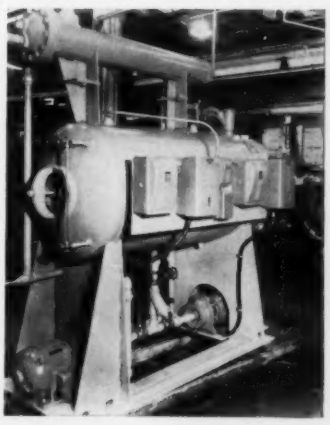
Push button stations at each operating floor are equipped with "start" buttons, red pilot light, and indicator lights showing the position of unload fingers at each floor—green for "up," red for "down." An emergency safe-run switch at each floor can stop the entire transfer sequence at any point.

Limit switches are installed on doors at each loading point and on loading fingers to insure exact loading and smooth transfer sequence.

Gifford-Wood Co., Hudson, N. Y.

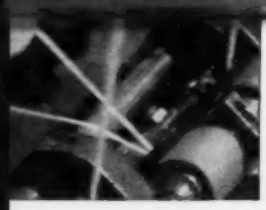
Do you want more data? Write ◂ or use card on page 215; list B-113

Packaged Boiler Return System Reduces Steam-Generating Costs



A new packaged boiler return system utilizes heat energy from high-pressure condensate to preheat incoming water for processing. Recapturing this heat, which might otherwise be lost in steam flashing off, saves on steam and fuel costs. The packaged unit also reheats condensate, plus make-up water, to near steaming temperature and returns it to the boiler.

Comprising a condensate cooler and receiver, feedwater heater, and all controls, plus pumps, piping and accessories, the unit comes completely packaged, ready to be set up and piped to steam, condensate, and water lines. The condensate cooler is an integral part of the con-



Check eyebrowing . . . Raise Yarn Uniformity up to 10%

with DAYCO Cots / Long Draft Aprons

One easy, intelligent decision will increase yarn quality up to 10% in your mill and eliminate the major cause of costly, wasteful eyebrowing. Install the amazing Dayco spinning combination—Dayco Cots and Dayco Long Draft Aprons.

Dayco Cots contain IBC, the exclusive Dayton ingredient which gives Daycos the precise co-efficient of friction to draw yarn smoothly, leaving the long staple fibers in the yarn. Result: substantially increased quality—*and* increased production when less time is lost due to eyebrow-caused lap-ups and ends down.

Because IBC retards glazing of the durable, cushioning Dayco surface, that doesn't pit or groove, buffing and replacement costs go way down.

Dayco Long Draft Aprons installed on your spinning frame will give you up to 10% more uniform yarn. Precision-built to .004 tolerance Daycos give constant, unvarying control of the yarn in the drafting area.

With a strong, pliable, cord body Daycos won't stretch or take a permanent set, so Monday-morning starts are free from flipped or broken aprons. Unaffected by temperature, humidity or hard ends, Daycos won't curl, become sticky or groove.

Make a test of Dayco's quality producing, cost reducing spinning combination—Dayco Cots and Dayco Long Draft Aprons. For information write Dayton Rubber Company, Textile Division, 401 S. C. National Bank Bldg., Greenville, S. C.

Dayco Long Draft Aprons—Available for both single and double apron systems, Daycos' improved drafting control provides up to 10% more uniform yarn.

© D.R. 1956

Dayton Rubber 51 YEARS OF PROGRESS

Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving

densate receiver. The closed boiler feedwater heater is mounted atop the receiver. Accessories, including steam trap, strainers, gate, check and quick-vent valves, thermometers and pressure gauge, are furnished completely assembled. Piping and power connections are all that are required before starting operation.

Savings are estimated at 1% for every 10 F rise in temperature of water going to the boiler. And since condensate pumped from the receiver of the unit is already hot, it has only to be brought to near steaming temperature in the closed feedwater heater before being returned to the boiler.

An important function of the closed feedwater heater is to prevent the stresses on boiler plates that usually occur when feedwater is introduced at lower temperature. Heating the boiler feedwater to near steaming temperature relieves these stresses, improves steaming qualities, and smooths out boiler operation generally.

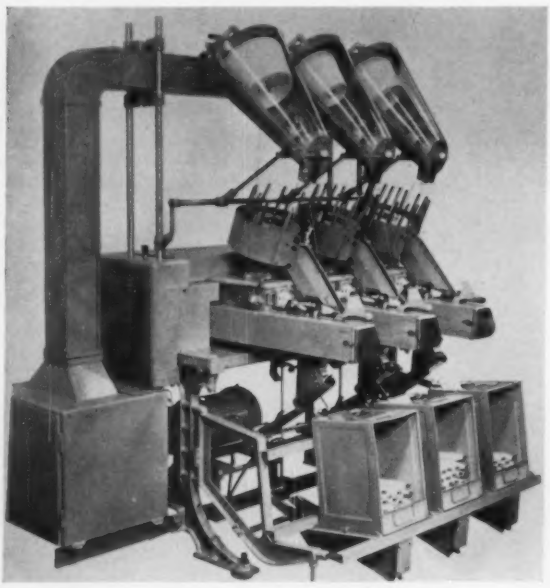
The Patterson-Kelley Co., Inc., East Stroudsburg, Pa.

Do you want more data? Write ◂ or use card on page 215; list B-114

Versatile Automatic Filling Winder Makes Tailless Bobbins

A new automatic filling winder, the Whitin-Schweiter Fill-Master, has many new features:

A dust exhaust system is provided for every winding position, resulting in dust- and dirt-free conditions around the winder. Bobbins are tailless wound, eliminating scissors and tail cutters. An unusual mechanism for differential binding of the yarn layers produces firmly wound bobbins with a minimum of tension for avoidance of sloughing in the shuttle. Depending upon the type of yarn run and the bobbins used, this winding unit will run at spindle speeds up to 10,000 rpm.



Manufactured by Whitin Machine Works under license from Schweiter, Ltd., Horgen (Zurich), Switzerland, the winder is extremely versatile and adaptable to a wide range of winding conditions with economical production costs. It is designed to wind any type of yarn — cotton, wool, worsted, and synthetics — from coarse to fine counts. When different yarns are run, the tension is the only element that has to be adjusted. Bobbins are uniformly parallel. The spindle speed is adjustable on each individual winding position and covers a wide range of speeds.

The machine can be very easily adjusted to wind bobbins up to 10⅛" in length, and the bobbin diameter is likewise easily changed by a simple positive control.

The new winder is virtually completely automatic in operation. It can be equipped with a high speed bobbin loader, supplying up to 60 bobbins per minute; and filled bobbins can be either dropped on the pinboards underneath each individual winder unit or can be automatically packed into a loom box under each unit. Machine cleaning is materially reduced by the efficient dust exhaust system and maintenance is consequently reduced to very low levels.

The duties of the operator are reduced to a virtual minimum through the use of this new winder.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 215; list B-115

Belt Guide Roller Increases Drive Belt Life

Rapid wear of belts due to rubbing on fork guides like those on openers, pickers, fly frames, etc., is eliminated by a new belt guide roller. The device not only increases the life of drive belts, but also prevents belt slip.

Of simple, sturdy design, the belt guide roller has both a roller bearing and ball bearing fitted in a sleeve, with the outer rings remaining stationary. Since there are no separate inner rings, it is possible to have a larger shaft and higher capacity bearings.

Both roller and ball bearings are sealed off from dust and fly. The stationary outer rings prevent churning of the grease, and afford an ideal arrangement for lubrication. The belt guide roller requires lubrication only every 20,000 working hours.

The belt guide rollers can be easily installed on belt forks already in service.

S K F Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

Do you want more data? Write ◂ or use card on page 215; list B-116

New Type Water Repellent

A renewable water repellent of extremely fine particle size, called Morepel RW, offers these advantages:

1. May be poured from a drum, diluted with hot or cold water, and there is no spotting due to lumps or wax particles.
2. Insures complete coating of a continuous film on the yarns, providing uniform spray rating with minimum amounts;
3. Spotting with solvent will not leave a ring when solvent evaporates;
4. Simplicity of make-up relieves supervisory personnel of worry;
5. May be used on fabrics dyed with colors sensitive to acids, such as some direct or acetate colors;
6. Minimizes mark-off on smooth faced fabrics and those hard to penetrate;
7. May be applied by spraying onto fabrics on which a nip roll cannot be used, such as some upholstery fabrics;
8. On automotive fabrics it shows no wicking in 72

hours;

9. Increases color fastness of dyes on fabrics treated.

Conventional equipment may be used for padding the repellent on fabrics and drying it. For best results high temperature drying is recommended.

Made of durable waxy materials plus selected heavy metal salts, this thin white emulsion is freeze-thaw stable.

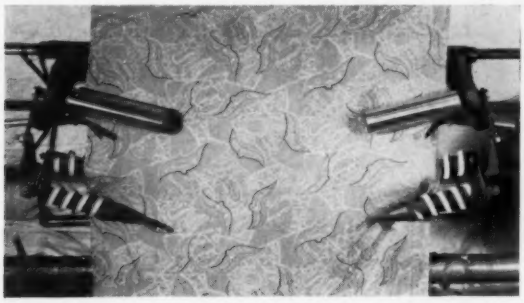
Moretex Chemical Products, Inc., 314 W. Henry St., Spartanburg, S. C.

Do you want more data? Write ◆ or use card on page 215; list B-117

Selvage Uncurler with Automatic Adjusting Feature

A new type of selvage uncurler automatically adjusts the position of its spirals to the tightness or looseness of the cloth being processed.

The uncurler has two spirals, one in front of and one behind the cloth. The spirals revolve as the fabric goes



through them. They are undercut and have a thin edge for getting under the turned or curled selvages. Spirals of hardwood or a special grade of rubber can be furnished. The spiral shafts are attached to a plate which is pivoted in the center. An adjustable counterweight keeps the correct tension on the cloth at all times.

Guider, Roll and Service Co., P. O. Box 3747, Peninsula Sta., Daytona Beach, Fla.

Do you want more data? Write ◆ or use card on page 215; list B-118

Column-Mounted Motors Simplify Line-Shaft Replacement

Gearmotors mounted atop columns offer practical advantages over older arrangements for replacing line-shaft drives in textile mills.

Known as the "Sadi" Universal Support Column, it has a foot that rests on the floor without fastening, simple side brackets for attaching the column to the machine, and interchangeable supports to accommodate various types of motors.

The machine's original pulleys are used, and belt pull is in the same direction as the replaced line-shaft drive. A powerful spiral spring in the column maintains constant belt tension, and a control lever facilitates speed changes.

Getting the drive motor up off the floor for better space utilization and protection of the motor from dirt, oil, or water, the column also eliminates problems in mounting the motor on the ceiling, wall, or directly on the machine.

ACEC Electric Corp., 40 East 49th St., New York 17, N. Y.

Do you want more data? Write ◆ or use card on page 215; list B-119

Stainless Steel CYLINDERS

...accurate...true running

Blickman Built Stainless Steel drying cylinder . . . 60 inch diameter. Plate No. 7252

Stainless Steel drying rolls . . . high pressure steam, built to A S M E code specifications.

FOR TROUBLE-FREE SERVICE UNDER MODERN HIGH SPEED TEXTILE OPERATIONS

For protecting the fabrics you process, Blickman Built cylinders are being recommended and used by an increasing number of manufacturers of textile finishing machinery. The reason is simple. Blickman specializes in the fabrication of stainless steel cylinders to give you a more accurate, more dependable, safer cylinder. Our special plant equipment and controlled welding procedures assure rugged construction for long service. Blickman Built cylinders are available through many textile machine builders or through us.

- **DIMENSIONS**—Built in any diameters or lengths to meet your requirements.
- **FINISH**—Polished on our own automatic machines to as high as number 6 finish, if you require it.
- **CODE REQUIREMENTS**—Cylinders built to conform to local and ASME national board codes.
- **INSPECTION**—Tested at twice working pressure . . . thoroughly checked for leaks.
- **CONSTRUCTION**—Mechanically sized for accuracy and true running. Furnished with or without heads.
- **TYPES**—Dry cans, presetting cylinders, cooling cylinders, etc.

Specify Blickman Built cylinders through your textile machine builder . . . or send your inquiry direct to us. Quotations furnished promptly.

EST 1889

S. BLICKMAN, INC. 202 GREGORY AVENUE WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks.

DIAMOND FINISH representatives are "at your service"

Bill Dutemple is our sales manager and has been serving our users in the northeastern states and Canada for about 30 years. His headquarters are here at Whitinsville.

Bill Shirley has been a DIAMOND FINISH representative for about 10 years in the Southeast and is now concentrating on the Carolinas and Virginia. His home base is 25 Oak Street, Belmont, North Carolina.

Mac Jackson is new with us, coming with a fine record as a mill superintendent which fits him beautifully for working with DIAMOND FINISH customers in Georgia, Alabama and Tennessee. His address is 216 Longview Drive, Jefferson, Georgia.

Your Ring Problems will have their careful attention.

WHITINSVILLE (MASS.) SPINNING RING CO.

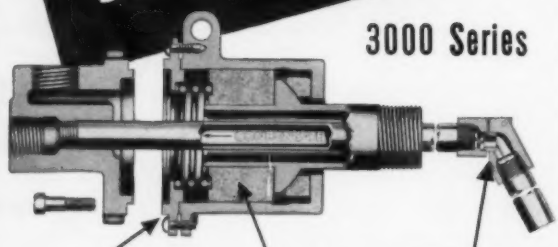
Makers of Spinning and Twister Rings since 1873

DIAMOND FINISH

Rep. for the Carolinas & Va.: W. K. SHIRLEY, 25 Oak St., Belmont, N.C.
Rep. for Ala., Ga., & Tenn: H. M. JACKSON, 216 Longview Dr., Jefferson, Ga.

Johnson Joint with SYPHON ELBOW

3000 Series



ASSEMBLY PLATE — Holds internal parts in position when head is removed.

SELF-SUPPORTING — Needs no external supports of any kind.

SYPHON ELBOW — Permits use of straight pipe for syphon. Can be inserted or withdrawn right through the joint.

WRITE FOR FACTS

on this Series 3000 Johnson Joint and the syphon elbow. Remember Johnson Joints have written an unmatched service record . . . are first choice among mill men and machinery makers alike . . . and can fit all operating needs.

The Johnson Corporation

815 Wood St., Three Rivers, Mich.

Equipment Briefs

Continuous leakproof performance is provided by a new **improved rotary joint** designed to convey liquids or gases from a stationary pipe outlet to a revolving cylinder, drum, calender, dry can, etc. This new Seamlex Rotary, a 1½" pipe size, single-flow type PR 25, is equipped with

two ball bearings to support and guide axially the revolving shaft, thus preventing misalignment and wobbling of shaft. It is provided with a tamperproof metal seal and is dated so that length of service can be readily determined.

Seamlex Co., Inc., 41-23 24th St., Long Island City 1, N. Y.

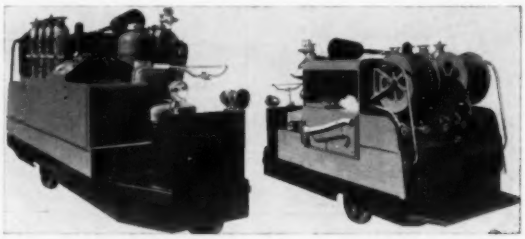
Do you want more data? Write supplier or use card on page 215; list B-206

Suggested textile industry applications for Polyisobutylene Dispersion 108, a **stable, aqueous, dispersion of "Vistanex,"** include textile coatings, textile laminating, adhesive for flock printing, additive for latex compounding, binder for non-woven fabrics. Product is unloaded and yields a colorless, tacky film when the moisture is removed.

Miller-Stephenson Chemical Co., Inc., 550 Fifth Ave., New York 36, N. Y.

Do you want more data? Write supplier or use card on page 215; list B-207

A new model **"in-plant" fire truck,** designated as the S-556 Model, carries carbon dioxide, dry chemical, water, and foam. It makes available large volumes of extinguishing agents at any part of a plant in seconds as the truck has a speed of 15 mph, turning radius of 96", is 50" wide, and 68" high. A 15 cu ft accessory cabinet is included as



well as a ladder cabinet for an extension ladder. 100 ft hoses for water fog and carbon dioxide are standard equipment. Equipment can be varied according to customer specifications.

Seco Engineering and Mfg. Div., Seco Safety Products Co., 1300 W. Fort St., Detroit 26, Mich.

Do you want more data? Write supplier or use card on page 215; list B-208

A new **dual hose reel** which can be easily adapted for top or bottom rewind enables the handling of two fluids or a fluid and a gas through one hose reel. Double gooseneck outlet pipes are closer together so that "two in one" hoses can be attached more easily and efficiently. This

arrangement also provides a more even rewind after delivery is completed. Available for hoses up to 1" I.D., this reel has forged steel, ball-bearing joints which will withstand pressures up to 1,000 psi or higher.

Clifford B. Hannay & Son, Inc., 34 Cherry St., Westerlo, N. Y.

Do you want more data? Write supplier or use card on page 215; list B-209

A complete line of Rapistan **galvanized steel channel gravity conveyors** is available. Advantage of the rust-resistant galvanized conveyors is that they maintain their new appearance in spite of wet conditions, making them ideally suited to outdoor operations and in moist areas.

The Rapids-Standard Co., Inc., Grand Rapids, Mich.

Do you want more data? Write supplier or use card on page 215; list B-210

Incandescent sparks from the exhaust of internal combustion engines are safely trapped by centrifugal force in the Gill **spark arrestor** which is attached to the end of the exhaust pipe. Hot carbon particles are carried to a cup collector for periodic disposal of the carbon. Exhaust gases escape through a large central opening. There is negligible back pressure on the engine, no moving parts, no maintenance.

Erickson Products Co., 43 Dore St., San Francisco 3, Calif.

Do you want more data? Write supplier or use card on page 215; list B-211

A new type synthetic **thickener-stabilizer for water phase plastic and rubber emulsions** is available. The acrylic material is especially recommended for thickening latex, polyvinyl acetate, and acrylic polymers used in textile, paint, and paper processing. Suspending and stabilizing properties are superior, and no buffering is necessary for adjusting viscosity over a wide pH range. pH and viscosity drifts are eliminated due to the ability of the product to remain stable over extended periods of storage.

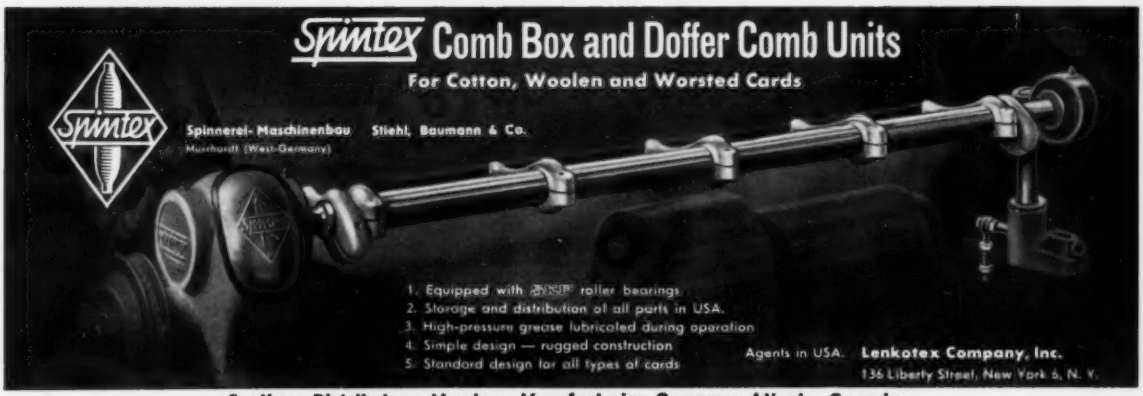
Wica Chemicals, Inc., Old Concord Rd., Charlotte, N. C.

Do you want more data? Write supplier or use card on page 215; list B-212

Moderately bright shades of red-brown and yellow-orange may be produced on cotton and rayon with National Solantine Brown 4RLVF and National Solantine Orange EGL respectively, both of which are **new non-dusting direct dyes** that can be applied at low temperatures. The former possesses good light fastness in direct dyeings and retains fairly good fastness when after-treated with crushproofing resins; also, it exhibits very good fastness to washing, acids, rubbing, water, and sea water bleeding, and excellent fastness to perspiration, water spotting, and hot pressing. The latter is practically unaffected by presence of metals in the dyebath, leaves acetate and nylon practically unstained, levels well, possesses good fastness to washing, alkali, and cold water bleeding; very good fastness to light; excellent fastness to mercerizing, cold water spotting, sea water bleeding, hot pressing and rubbing.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Do you want more data? Write supplier or use card on page 215; list B-213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SUPR-O-TAPE

New condenser tape gives even roving on both sides.

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COTTON YARNS

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Our skilled erectors can speed your slasher overhauling and repair jobs and reduce costly down-time to a minimum.

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This service is made possible by the advertisers of TEXTILE INDUSTRIES as an aid to mill men who want to keep well informed on new developments in the industry. We cannot, however, extend this service to you unless you print or write legibly your name and position, the name of your firm, and its address on the card.
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2-2 All Aluminum Jack Spool. Spool which eliminates all problems of spool maintenance is described in booklet. Shows pictures, cut-away views and cross sectional drawings. Write Thomas Leyland Machinery Co., Inc., Readville 37, Mass.

2-3 Continuous Power Conveyor. Color Brochure gives complete information on ZIG-ZAG Continuous Power Conveyor. Application pictures, diagrams, construction features included. Write Richards-Wilcox Mfg. Co., Aurora, Ill.

2-4 Textile Lubricants. Bulletin by Phoenix Oil Company gives "Cool Answers to Hot Problems". Describes SLO-VIS OILS, BEN-LUBE, BEN-TEX P-2-X. Write Phoenix Oil Company, 625 5th St., Augusta, Ga.

2-5 Rust Remover and Primer. Bulletins by Rusticide Products describe RUSTICIDE, the phosphoric base rust remover and OSPHO, used in priming rusted surfaces for print. Write Rusticide Products Co., 3125 Perkins Ave., Cleveland 14, Ohio.

2-6 Lurex—MM Yarns. Bulletin gives details and characteristics of high tensile strength and abrasive resistant yarn made from Mylar Polyester Film. Write Dobeckmun Company, Cleveland 1, Ohio.

2-7 Celanese Organic Chemicals. Booklet gives complete technical details on Celanese organic chemicals including uses and descriptive data. Useful addenda to files. Write Celanese Corporation, Chemical Division, 180 Madison Ave., New York 16, N.Y.

2-8 Materials Handling. New 12 page catalog illustrates 49 different models of two-wheel and platform trucks as well as 12 types of dollies and 15 styles of casters. Numerous photos, complete specifications. Write Nutting Truck and Caster Co., Faribault, Minn.

2-9 Ridge Tool Prices. Catalog gives net prices on Rigid Pipe Tools. Capacities and weights included along with pictures of each tool. Write Ridge Tool Co., Elyria, Ohio.

2-10 Control of Direct Radiation. Bulletin points out in non-technical language how to select the control system for the direct radiation method of heating. Write Barber Colman Company, Automatic Controls Div., Rockford, Illinois.

2-11 Dyeing, Bleaching, Finishing Bulletins. Saturator for roped goods, J-Box (for Becco process), J-Box (for duPont Process), Continuous Bleaching Ranges, Carrier Reels, Drum-Type Plaiter are available from Wiesner-Rapp Co., Inc., 1600 Seneca Street, Buffalo 10, New York.

2-12 Industrial Finishes. Catalog carries 42 pages of descriptive information on products commonly used in the upkeep and maintenance of industrial plants. Write Steelcote Mfg. Co., 3418 Gratiot St., St. Louis, Mo.

2-13 New Louis Allis Motors. Brochure includes photos and information on new open drip-proof, as well as enclosed and explosion-proof, electric motors. Write Louis Allis Co., Milwaukee 7, Wisconsin, requesting bulletin #1700.

2-14 Maintenance of Variable Speed Drives. Bulletin describes and illustrates the simple but comprehensive program available to keep Reliance V-S Jr. Drives in operation at peak efficiency. Write Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland 10, Ohio.

Aluminum Take-Up Bobbin. Hard worker with a long life . . . takes crushing pressure of any yarn.

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Wood and Fibre Twister Bobbins—Low cost—long life—for non-steaming use.

Rayon Twister Bobbins—Handle rayon or nylon at high speed, with steaming.

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Can your mill afford a full-time research program? Or even just one man to study nothing but bobbin problems? You won't need either when you use Lestershire Bobbins by National. Our research staff is working continually on *your* problems—new synthetic yarns, larger "packages," higher speeds—as they develop. You buy assurance when you buy Lestershire — assurance of the right bobbin for almost any spindle speed or yarn in use today.

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GENERAL, ECONOMICAL MANAGEMENT . . .

8. TEXTILE RESEARCH AT AMERICAN VISCOSE — Color booklet tells the story of the Textile Research Department which is, in effect, a many-sided textile mill. — AMERICAN VISCOSE CORP., 350 Fifth Avenue, New York 1, N. Y.

11. "WHERE DID THEY HIT PAY DIRT?" — Booklet describes how many manufacturing concerns have come South and why they found it profitable. Gives industrial advantages of the Southeast. Write CENTRAL OF GEORGIA RAILWAY, Industrial Development Department, 501 Rhodes Haverty Bldg., Atlanta 3, Georgia.

15. NEW INDUSTRIAL FIBER — Technical bulletin now available on Fortisan-36, new industrial fiber by Celanese. Uses text, charts and diagrams to present technical properties, characteristics and recommendations for processing. — TEXTILE SALES DEPARTMENT, Celanese Corporation, Charlotte, N. C.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. — AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. RAYON—MILE BY MILE — Color booklet describes how Industrial Rayon Corporation produces rayon mile by mile which is perfect inch by inch. — INDUSTRIAL RAYON CORP., Fifth Ave., New York 18, N. Y.

22. THE WONALANCET WAY — Is the title of an editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

23. TEXTILE STEELS — Six booklets are available from Atlantic Steel Company which will prove valuable to persons concerned with the purchase or use of steel. — ATLANTIC STEEL CO., P. O. Box 1714, Atlanta 1, Ga.

24. THE CHEMSTRAND NYLON STORY — Booklet describes one of the greatest industrial ventures of the textile industry in the South — the birth and growth of Chemstrand Nylon. — CHEMSTRAND CORP., 350 Fifth Ave., New York 1, N. Y.

PLANT & PLANT MAINTENANCE . . .

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels; cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

105. CASTERS AND WHEELS — Catalog gives complete description on full line of industrial casters and wheels. Features patented "LOCKWELD" Steel Casters Without A Kingpin" both Single and Double Ball Race. — THE FAIRBANKS CO., 393 Lafayette St., New York 3, N. Y.

106. FINNELL COMBINATION SCRUBBER-VAC —Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors. — FINNELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

111. CERTIFIED CLIMATE AIRCHANGER SYSTEM — Bulletin describes Certified Climate Airchanger System as used with direct humidification for partial or complete air conditioning. — PARKS-CRAMER CO., Fitchburg, Mass.

112. HARDWOOD FLOORING — Booklet entitled "Specialist in Manufacturing of Hard Maple Flooring for textile plants." For complete information, write — CONNOR LUMBER & LAND COMPANY, P. O. Box 810, Wausau, Wisconsin.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

114. PENETRATING WOOD FINISH — Bulletin gives applications, uses and application specifications of floor seals for textiles. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIVISION, Wilmington, Delaware.

115. FOAMGLAS — Illustrated brochure features information on how the use of Foamglas cellular glass insluation solved the severe insulating problems of leading users. — PITTSBURGH CORNING CORP., — PITTSBURGH CORNING CORP., One Gateway One Gateway Center, Pittsburgh 22, Pa.

116. STOP CORROSION — Details on speed Rex paint for metal wood and concrete maintenance solving condensation problems. — TRUSCON LABORATORIES, Box 69, Milwaukee Junction, P. O. Dept. T, Detroit 11, Mich.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

118. LIQUIDATION INFORMATION — Information available on how to profitably dispose of mill properties being liquidated. Tells how Comer will buy, sell and relocate industry in your former site. — COMER MACHINERY CO., 634 W. Peachtree St., Atlanta, Ga.

120. STAINLESS STEEL FOR TEXTILES — 40-page booklet gives applications and advantages of stainless in textile plant equipment of all types. — ALLEGHENY LUDLUM STEEL CORP., Dept TI-71, Oliver Bldg., Pittsburgh 22, Pa.

121. CRANES AND HOISTS — Portfolio of bulletins describes the complete line of Shepard Niles traveling hoists and floor or cab operated traveling cranes. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

122. TEXTILE MILL CLEANING GUIDE — Useful book by Oakite prescribes methods and means of proper mill cleaning and maintenance. — OAKITE PRODUCTS, 26C Rector St., New York 6, N. Y.

123. ROLLER BEARINGS FOR TEXTILES — Easy to read non-technical bulletin describes where and how Hyatt Roller Bearings are employed for more profitable textile production. — HYATT BEARINGS DIV., GENERAL MOTORS CORP., Harrison, N. J.

125. STATIC ELIMINATION — Bulletin by Simco describes effective, simple, safe and inexpensive means of eliminating static. — SIMCO COMPANY, 980 Walnut St., Lansdale, Pa.

126. TOLEDO TRUCK SCALES — Booklet tells how mills may save on installation and throughout long, useful lift of Toledo Truck Scales. Gives capacities and advantages. — TOLEDO SCALE COMPANY, Toledo 1, Ohio.

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1. Completely replaces wooden skewers.
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Textile men everywhere are concerned with efficiency and economy of operation, and that's just what these *exclusive* Eclipse features assure you! If you want to modernize your present plant equipment profitably, you can't go wrong with the finest—Eclipse Bobbin Holders. Write us for further details.

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127. SOLENOID VALVES — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

130. STAINLESS STEEL FABRICATION — Illustrated color booklet by Sims describes the advantages of stainless steel with regard to textile operations. Also includes information on ventilating and drying, slasher exhaust, and materials handling systems. — SIMS METAL WORKS, West Point, Ga.

131. "AIR-PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

132. AUTOMATIC BOILERS — Bulletin describes POWER-MASTER Automatic Boilers for light and heavy oil; gas or combination Gas-Oil Firing. Complete table of data. — ORR AND SEMBOWER, INC., Reading, Pa.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and applications, along with their Woven Wire Constructions and Positive Drive Chain Edge belts. —ASHWORTH BROS. INC., METAL PRODUCTS DIV., Fall River, Mass.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, TEXTILE DIVISION, Oaks, Penna. Penna.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance, characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

208. CUTLER-HAMMER MOTOR CONTROL — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for textile cards. — CUTLER-HAMMER, 315 N. 12th St., Milwaukee, Wisconsin.

209. STEEL PULLEYS — Pictorial review of American Steel Pulleys, their manufacturing processes and some of their end uses. Textile pulleys are featured. — AMERICAN PULLEY CO., 4200 Wissahickon Ave., Philadelphia 29, Pa.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

213. LUBRICATION OF ELECTRIC MOTORS — Illustrated bulletin on lubricating and cleaning ball and roller bearings on electric motors. — NEW YORK & NEW JERSEY LUBRICANT COMPANY, 292 Madison Ave., New York 17, N. Y.

217. DYNAMIC RESPONSE D-C MOTORS — Illustrated bulletin describes the new Reliance Super "T" Line D-c, Motors with Dynamic Response. Information is included on speed ranges, acceleration rates, enclosures, dimensions and selection data. — RELIANCE ELECTRIC & ENGINEERING CO., 1088 Ivanhoe Road, Cleveland 10, Ohio.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL — Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested. — REEVES PULLEY COMPANY, Columbus, Indiana.

223. LUBRICATION OF BEARINGS — Booklet entitled "Lubrication and Maintenance of Ball and Roller Bearings" gives helpful list of do's and don'ts to prolong bearing life. Also includes valuable information on storage and handling of lubricants. — NEW YORK & NEW JERSEY LUBRICANT CO., 292 Madison Ave., New York 17, N. Y.

225. HYDRAULIC SLASHER DRIVES — Color booklet by Vickers shows how hydraulic drives provide an economical approach to improved slasher operation. Has detailed pictures and enumerates advantages. — VICKERS, INC., 1036 Peachtree St., Atlanta, Ga.

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220. NEW NEEDLE OIL — Booklet by Shell gives facts on Vexilla Oil 117, which gives 12 times more rust protection during operation and during shut-down periods. — SHELL OIL CO., 50 West 50th St., New York 20, N. Y.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

230. INDUSTRIAL GREASES — Now available from Sinclair is a bulletin detailing qualities and specifications of multi-purpose lithium soap industrial greases. — A. S. RANDAK, SINCLAIR REFINING CO., 600 Fifth Ave., New York, N. Y.

232. "VARI-PITCH" SHEAVE BULLETIN — Stationary and motion control of "Vari-Pitch" sheaves for speed variation up to 76% by means of pitch diameter adjustment, capacities 1 to 600 HP are described in new bulletin. — ALLIS-CHALMERS MFG. CO., Milwaukee 1, Wisconsin.

233. LEATHER BELTING — Booklet by Atlanta Belting Co., describes comprehensively the selection, installation, and proper maintenance of modern leather belting. — ATLANTA BELTING CO., 508-510 Whitehall St., S.W., Atlanta, Ga.

234. SPINDLE OIL — Color brochure describes "Gulfspin," showing how it insures against excessive wear in cast iron bolsters and provides freedom from spindle wobble. — GULF OIL CORPORATION, Gulf Bldg., Pittsburgh, Pa.

235. JOHNSON LEDALOYL BEARING BRONZE — Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. — JOHNSON BRONZE COMPANY, New Castle, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 2100 W. Eleventh St., Wilmington 99, Del.

240. CATALOG OF NEEDLE BEARINGS — New catalog conveniently presents design, application and use data for five types of needle bearings. Actually an engineering short course on bearings with visual index units. — THE TORRINGTON CO., Torrington, Connecticut.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

258. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS— Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302. TEXTILE INSTRUMENTATION—New booklet gives details on Brush Lapcheck, Brush Tension Analyzer, Brush Imperfection Counter, and Improved Uniformity Analyzer. Pictures uses and capacities of each machine discussed. — BRUSH ELECTRONICS CO., 3405 Perkins Avenue, Cleveland 14, Ohio.

304. WASTE HEAT RECOVERY — Color booklet describes Bready System of waste heat recovery from polluted or soiled waste water. Includes pictures and complete facts. — LUDELL MFG. CO., 5200 West State Street, Milwaukee, Wisconsin.

313. "THE FAIRBANKS VALVE COMPARISON CHART" — New reference manual important in specification, ordering, and using of bronze and iron-body valves. — THE FAIRBANKS COMPANY, 393 Lafayette Street, New York 3, N. Y.

315. MICRO SWITCH BULLETIN — Complete selection of bulletins featuring Micro Switch products is now available. Includes prices, characteristics, applications, etc. — MICRO SWITCH DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., Freeport, Ill.

318. MOISTURE CONTROLLER AND INDICATORS — Literature available from Strandberg Engineering covers indicators for slashers, tenters, etc.; for direct connection to pickers, and automatic controllers for connection to same. — STRANDBERG ENGINEERING LABORATORIES, 416 W. Market St., Greensboro, N. C.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. —TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES —Illustrated booklet by The William Powell Co. features a new line of sami-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. TRAVELING CLEANERS — 4-page bulletin describes the improved Parks-Cramer Frame and Room Cleaners including the Underframe and Floor Sweepers. — PARK-CRAMER CO., Fitchburg, Mass.

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411. SHEET METAL WORK — Pamphlet describes spinning cylinders, aspirators, card screens, sheet metal specialties. — GASTONIA TEXTILE SHEET METAL WORKS, INC., 222 East Long Avenue, Gastonia, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

413. HIGH SPEED, AUTOMATIC QUILLER — Color booklet by Schlafhorst describes the "Autocoper" Automatic Quiller. Gives advantages, space requirements, etc. — TERRELL MACHINE CO., INC., Charlotte, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

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419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

422. WARPER BEAMS — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. — U. S. BOBBIN SHUTTLE CO., Lawrence, Mass.

423. SPINDLE OILING MACHINE — Information available on new Spindle Oiling Machine. Features include filter system to clean oil for reuse; smaller size for narrow aisles. — WICACO MACHINE CORP., 4890 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

424. GREASE-SEALED, ANTI-FRICTION ROLLS — Booklet contains description and engineering drawings of the Cole grease-sealed, anti-friction rolls. Also contains information on dual apron controlled drafting units. — COLE ENGINEERING CORP., P. O. Box 153, Columbus, Ga.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or cobbin takeup Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

429. BETTER FLYER AND SPINDLE EFFICIENCY — Entertaining booklet by Ideal Machine Shops gives facts about Flyers and Spindles which have helped many mills gain more efficient production, better yarn quality. — IDEAL MACHINE SHOPS, INC., Bessemer City, N. C.

431. TEXTILE VACUUM SYSTEM — Color bulletin by Spin Sa Vac describes application of their vacuum system to drawing, roving and spinning processes, and for the removal of broken ends, fly or sliver. Complete diagrams and shots of typical installations. — SPIN SA VAC CORPORATION, 1438 South Tryon St., Charlotte, N. C.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

433. PERMANENT PLATE MAGNETS — Bulletin shows how Eriez Magnetic Separators prevent fires and protect machinery from tramp iron in all types of textile mills. — ERIEZ MFG. CO., Erie, Pa.

434. SPINNING AND TWISTER RINGS — Catalog and price list now available on Whitinsville "Diamond Finish" spinning and twister rings. Complete details and pictures. — WHITINSVILLE SPINNING RING CO., Whitinsville, Mass.

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436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

437. PRECISION GEAR BULLETINS — Now available from Precision Gear are bulletins on machinery products for cleaning and picking, roving frames, spinning and twisting and a general catalog on gears. — PRECISION GEAR AND MACHINE CO., 2001 N. Tryon St., Charlotte 2, N. C.

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439. PNEUMAFIL SUCTION CLEANING SYSTEMS — Booklet describes types of Pneumafil Systems, gives details of new Collector Unit model C-4. New type LFC Pneumafil is also discussed. Diagrams, comparison charts and installation pictures included. — PNEUMAFIL CORP., Charlotte 8, N. C.

440. CUSTOM MADE THREAD GUIDES — Color brochure describes complete line of American Lava Company's thread guides. Composition, properties, specifications of all designs included. — AMERICAN LAVA CORPORATION, Chattanooga 5, Tenn.

444. OPENING AND CLEANING MACHINERY— Color brochure by Dodenhoff describes their waste machine, enclosed feeder, conveyors and cleaner. Specifications included with pictures. — W. D. DODENHOFF CO., Box 178, Greenville, S. C.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

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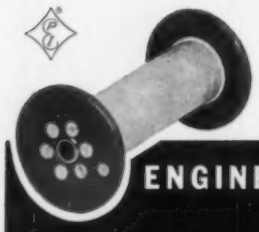

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450. HIGH SPEED AUTOMATIC QUILLER — Color booklet describes the Schlafhorst "Autocopser," listing its advantages and giving dimensions. — TERRELL MACHINE CO., INC., P. O. Box 928, Charlotte, N. C.

451. ROLLER BEARING SPINDLE — Color booklet gives principal features and main advantages of SMM Roller Bearing Spindle. Detailed drawings included. — H. PHIL WORTH, Box 1555, Greenville, S. C.

452. PNEUMAFIL LINT-FREE CREEL — Color booklet describes the new Airfoil Design Pneumafil type LFC with Built-in Lint-Free Creel. Gives complete details and pictures. — PNEUMAFIL CORPORATION, Charlotte 8, North Carolina.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. — HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

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461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

472. TWISTING MACHINERY — Bulletin gives outstanding features, specifications facts and useful information on Novelty Yarn Twisters for Cotton, Silk, Worsted and Rayon Yarns. — COLLINS BROTHERS MACHINE COMPANY, 647 Roosevelt Ave., Pawtucket, Rhode Island.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color Booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, roll covering for cotton, silk and synthetic and woolen and worsted systems. An excellent guide book. — ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.

478. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

478. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

485. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

486. COTTON SIZING WASTE PROBLEM SOLUTION — Booklet describes the use of soluble, low-pollutional CMC in place of starch and how this can reduce costs. — HERCULES POWDER CO., Wilmington 99, Delaware.

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505. INNOVATION IN TEXTILE DRYING — Booklet by J. O. Ross gives details on Steam or Gas "Hot Air" Slasher for high speeds at low cost. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

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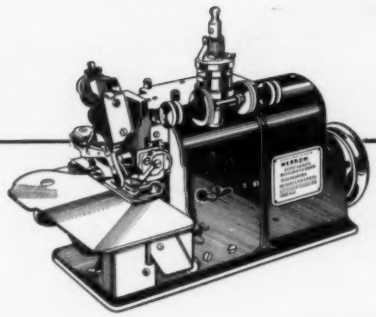

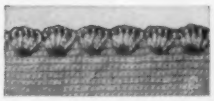

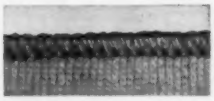

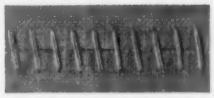

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508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

510. CONTROLLED SIZING — Brochure in color describes the legend, operation and specification of the new Griffin Size Machine. Features most important basic improvements in size machines in many years. — IRA L. GRIFFIN & SONS, P. O. Box 1576, Charlotte, N. C.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

514. THE STORY OF STARCHES — Semi-technical booklet tells the story of starches and information on how they are produced, the creation of new specialty starches, the unique "man-made" starch derivatives, and the handling of starches. — NATIONAL STARCH PRODUCTS, INC., 270 Madison Avenue, New York 16, New York.

515. WARPING, SLASHING, WEAVING ARNEL YARNS — 8-page booklet preliminary information on Arnel Triacetate Yarns. — CELANESE CORP. OF AMERICA, TEXTILE DIVISION, Box 1414, Charlotte, N. C.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

519. ALIGNING LAYS — Informative booklet gives setting instructions for aligning lays. Complete treatment, including step-by-step drawings.—DRAPER CORPORATION, Hopedale, Massachusetts.

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525. STAINLESS DRY CANS — Bulletin describes advantages of Unistel Stainless Dry Cans including details of construction. Profusely illustrated. — UNISTEL TEXTILE MACHINE CORP., 225 Westchester Avenue, Port Chester, N. Y.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

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601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

603. EMCO ROTARY CUTTER WINDER — Bulletin gives applications, sizes and exclusive features. — H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

604. DYEING, BLEACHING AND DRYING EQUIPMENT — Excellent color brochure by Morton describes their complete line of dyeing, bleaching and drying equipment for cotton, wool and synthetics. — MORTON MACHINE WORKS, 1718 3rd Ave., Columbus, Ga.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

607. RIBBON CALENDERS — Brochure features Dickerhoff Ribbon Calenders for the purpose of calendering, embossing, etc., of narrow fabrics. — ENGINEERING WORKS, HERM. DICKERHOFF LTD., Wuppertal Barmen, Western Germany.

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612. JAMES HUNTER MACHINES FOR DYEING AND FINISHING — Comprehensive Catalog contains complete file of bulletins on all Hunter machines having application in dyeing and finishing. Excellent reference data for dyehouses. — JAMES HUNTER MACHINE CO., North Adams, Mass.

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613. HERMAS TEXTILE MACHINES — Selection includes brochures on Unwind Stand, Automatic Guiding Unit, Jet Mixer, Selvage Trimming, Clothroom Machinery. — HERMAS MACHINE CO., Hawthorne, N. J.

614. TEXTILE FINISHING MACHINERY — Further information concerning the Wiesner-Rapp textile finishing machinery as connected with the Textile and Chemical Industries. Helpful in discussing processing problems. — THE WIESNER-RAPP CO., INC., 1603 Seneca St., Buffalo 10, N. Y.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

618. APPLICATION OF FUGITIVE DYES — Bulletin describes UNITINT operation, giving advantages of effectively controlling the application of fugitive dyes to various fibers. — W. D. DODENHOFF COMPANY, 745 Lowndes Hill Rd., Greenville, S. C.

619. PENFORD FINISHING GUMS — Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums. — PENICK & FORD, Ltd., 420 Lexington Ave., New York 17, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

621. "DYEING SYNTHETIC FIBERS" — Brochure giving a comprehensive, detailed analysis of the methods and materials available for dyeing synthetic fibers. — GENERAL DYESTUFF CO., 435 Hudson St., New York 14, N. Y.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. TREATMENT OF SYNTHETIC TEXTILE FINISHES — High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 22 page folder entitled "The Textile Report" by Edwin L. Wiegand Company, 7700 Thomas Blvd., Pittsburgh 8, Pa.

630. COMPLETE NAPTHOL MANUAL — Practical working handbook, 110 pages, on textile dyeing and printing applications of Naphtols. Write on company letterhead to PFISTER CHEMICAL WORKS, Box 326, Ridgefield, N. J.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. — FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.,

636. NAPPERS FOR TREATING ANY FABRICS — Bulletin gives complete details on the Muller Tri-Napping Machine with 24, 30, or 36 rollers. Dimensions and weights included. — FRANZ MULLER, M. Gladbach, Germany.

637. BALL BEARING TURN TABLE — Leaflet describing this 48 inch diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

642. SELVAGE OR BACK MARKING MACHINE —Complete specifications and performance data on a new fully automatic marking machine available from Kaumagraph. — KAUMAGRAPH CO., Wilmington 99, Delaware.

643. SURFACE-ACTIVE AGENT — Bulletin gives characteristic properties, suggested applications, etc. of the Nonionic Octylphenoxyethanol Triton Surface-Active Agents. — ROHM & HAAS CO., SPECIAL PRODUCTS DEPT., Philadelphia 5, Pa.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

659. SONOCO TUBES FOR PACKAGE DYEING — Color bulletin describes Sonoco's DYTEX tubes for one-time use in standard package dyeing equipment to achieve uniformity. — SONOCO PRODUCTS CO., Hartsville, S. C.

DYSTEUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

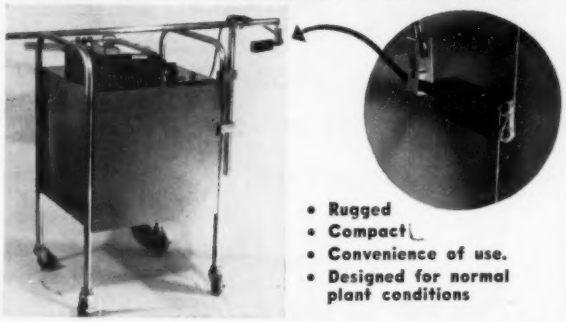
704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — ROHM & HAAS COMPANY, RESINOUS PRODUCTS DIV., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive twenty-three page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

707. BRINE FOR TEXTILE INDUSTRY — 32-page booklet on the Lixate Process replaces former booklet on making brine that has been a standard reference for years. Contains much more technical information. — INTERNATIONAL SALT CO., INC., Cranton, Pa.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

HIGH SPEED RECORDING TENSIOMETER



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- Convenience of use.
- Designed for normal plant conditions

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The instrument has a frequency response up to 120 cycles per second and a sensitivity as high as four millimeters deflection on a standard direct writing recorder per gram of tension in the yarn. Under normal plant conditions, heavy machine, and plant vibrations are cancelled by using two beams with bonded resistance strain gages working to opposition. The record produced is a true record of tension variation only. Stops are provided to prevent over stressing these beams. To use the instrument it is only necessary to place the pulleys over the running yarn and twist the sensing head until the yarn forms on S shape over the pulleys.

The Sensing head shown in enlarged cut maybe purchased separately and used with standard recording equipment.

As our name implies we also welcome the opportunity to work on custom design and manufacture of testing instruments of all types for individual and general needs.

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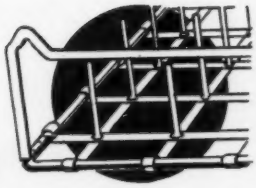
541 Devon Street, Kearny, N. J.

Bobbin Racks Cleaned 100% Without Brushing



Less than 10 minutes is all it takes to clean cadmium metal racks used for transporting bobbins of yarn about the mill. High humidity causes lint and dust to collect on racks and because of their construction, manual brushing is a time-consuming operation. The right method is as easy as . . .

- **A—Immerse in solution of Oakite Composition No. 8 mixed with kerosene.**
- **B—Pressure-spray rinse.**
- **C—Hot-air dry.**

Soils are removed 100% without manual brushing. This is just one of the many textile cleaning problems that Oakite materials and methods are overcoming. The FREE handbook, Textile Mill Cleaning Guide, gives thorough and economical solutions to many others. Get a copy today, write: Oakite Products, Inc., 26C Rector Street, New York 6, N. Y.

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712. **CATALYST AC-6** — Booklet describes how Catalyst AC-6 steps up curing efficiency as much as 25%. Free eight-ounce bottle upon request. — MONSANTO CHEMICAL COMPANY, PLASTIC DIVISION, DEPT. TI-3, Springfield 2, Mass.

713. **LIOVATINE ED** — Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

714. **NEW SODA ASH BULLETIN** — 64-page edition contains both new material and revisions of previously used data covering the subject. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. **AQUAROL AND ARKANSAS PRODUCTS** — Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

719. **WOOL OIL** — Descriptive booklet on antistatic fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing. — EMERY INDUSTRIES, INC., DEPT. 5, Carew Tower, Cincinnati 2, Ohio.

720. **INDUSTRIAL OIL** — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. — SWIFT & COMPANY, INDUSTRIAL OIL DEPARTMENT, 1800 165th Street, Hammond, Indiana.

722. **RESINS & LATICES** — Booklet describes chemigum, latex, pliolite latex, plivois latex, pliovic AO and their applications. Gives properties of Goodyear Latices. — GOODYEAR CHEMICAL DIV., 1144 East Market St., Akron 16, Ohio.

723. **CHEMICAL CATALOG** — Features detergents, wetting agents, emulsifiers, brighteners, sequestrants, dyeing assistants with chemical composition, properties and application. — ANTARA CHEMICALS DIV., GENERAL ANILINE & FILM CORP., 435 Hudson St., New York 14, N. Y.

724. **WICA CHEMICAL BULLETINS** — Bulletins describe in technical terms the various Wica Products for textiles. Issued each month for the benefit of industry, they are an excellent help in wet processing. To get on the mailing list write WICA CHEMICALS, INC., P. O. Box 566, Charlotte, N. C.

727. **COLOR PRINCIPLES** — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

729. **STATIC AND STATIC CONTROL** — Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. **WOOL OILS** — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. **BLEACHING WITH PEROXYGEN CHEMICALS** — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept. Bulletin No. 52, now available. — BUFFALO ELECTROCHEMICAL CO., INC., Station B, Buffalo 7, New York.

745. **RAPIDASE FOR DESIZING** — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

746. **INDUSTRIAL CHEMICALS** — 24-page booklet listing alphabetically Harshaw industrial chemicals and applications. — THE HARSHAW CHEMICAL COMPANY, 1945 East 97th Street, Cleveland, Ohio.

747. **CATIONIC SURFACE ACTIVE AGENT** — Technical bulletin describes Harshaw's UVERSOFT "D" which produces full, soft hand while acting as an outstanding anti-static agent. — HARSHAW CHEMICAL CO., 1945 East 97th St., Cleveland 6, Ohio.

748. **CHEMICALS, DYES AND INTERMEDIATES** — Complete file of bulletins available on Metro-Atlantic products. Covers wide range. Write for product resume showing bulletins offered to METRO-ATLANTIC, INC., Centredale 11, R. I.

753. **TRITON X-100** — Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. **THE CHEMISTRY OF CYNANURIC CHLORIDE** — Very comprehensive technical text by American Cyanamid Co. Gives physical properties, reaction chart, chemical properties, potential applications, toxicity, table of alcohol reactions, table of amine and related compound reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

766. **DU PONT PEROXIDE BLEACHING SYSTEMS** — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. **SURFACE TENSION DEPRESSANT** — The Booklet, "Mercerizing and Alkamercs — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

774. **ROYCE TEXTILE CHEMICALS** — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

800. **SYNTHANE TEXTILE PARTS** — Folder on laminated bobbins, pirns, headless package tubes, hosiery turning and examining forms, sizing bobbins, etc. — SYNTHANE CORP., 9 River Road, Oaks, Pa.

801. **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE** — Literature on request from the WILDMAN MFG. CO., FULL FASHIONED DIVISION, Norristown, Pa.

803. **TIPS ON SEAMING NYLON STRETCH HOSIERY** — Pamphlet lists in detail observations and suggestions on seaming nylon stretch hosiery prepared by Union Special as a result of findings of engineers in the field. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Ill.

804. **BOOKLETS ON FIDELITY MACHINES** — Following booklets available: Fidelity "400", Fidelity Multi-Design Ribber, Fidelity Skein Reelers. — FIDELITY MACHINE CO., 3908-18 Frankford Ave., Philadelphia 24, Pa.

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WONALANCET

Cotton Waste Fibres

for Felting, Batting, Wadding

for Shipment from New England and Southern mill points

Uniform as to grade, staple, color and character. Free from variations in quality of lot to lot shipments. Available from stock in any quantity at all times.

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holds square edges indefinitely.

See page 239 of this issue.

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It's wasteful. it's costly! But the SIMCO "Midget" Static Eliminator guarantees to be effective—at the lowest possible cost. Standard and shockless bars for every application. Equip now.

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808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS — Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.

828. THE KIDDE KNITTER — Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1006. LANE CANVAS BASKETS — 16-page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1009. HOW TO TEST CORRUGATED BOXES — 24-page booklet offers a comprehensive check-list by which to judge the protective qualities and durability of specific corrugated boxes. — HINDE AND DAUCH, Sandusky, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1015. OVERHEAD MATERIALS HANDLING — Three booklets available from Louden Machinery Co. treat economical material handling, twin fan ceiling cleaners, and shock proof electrification. — LOUDEN MACHINERY CO., Fairfield, Iowa.

1018. BALL BEARING TROLLEYS — 20 page catalog by Link Belt describes entirely new line of ball bearing trolleys for overhead conveyors. Contains pictures, specifications charts and diagrams. — LINK-BELT CO., 307, North Michigan Ave., Chicago 1, Illinois.

1019. HOW TO SELECT A LIFT TRUCK — An equipment analysis guide and rating table has been introduced by Hyster for comparison and selection of fork lift trucks. Gives an excellent means for price comparison between trucks of a similar nature. — HYSTER CO., 2902 N. E. Clackamas St., Portland 9, Oregon.

1021. CORRUGATED CONTAINERS — Brochure by Gaylord describes Multi-Unit and Bulk Containers which have been adapted for the textile field. — GAYLORD CONTAINER CORP., 111 N. 4th St., St. Louis 2, Mo.

1022. INDUSTRIAL TRACK EQUIPMENT — Color booklet describes SAFE-RAIL track developed as a supplement to the ZIG-ZAG power conveyor. Complete engineering data included. — RICHARDS-WILCOX MFG. CO., Aurora, Ill.

1030. CDF RECEPTACLES — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1033. STRESSES ON OVERHEAD TRACKS — Booklet describes in detail stresses developed in various type tracks used for overhead materials handling systems. Track peening also covered. — CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both downstroke and upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1105. SHADOGRAPH WEIGHING DEVICES — Bulletins describe scales for weighing dyestuffs, cotton samples, wool yarn, cones of yarn. Pictures and complete information on each type of scale included. — EXACT WEIGHT SCALE CO., Columbus 8, Ohio.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. —GASTONIO BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, TEXTILE DIVISION, 585 Blossom Rd., Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. BALING PRESSES — Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee,

What the TEXTILE MILLS are doing

(Continued from page 42)

James Lees and Sons Company recently began manufacturing operations in a new extension to the spinning mill at their carpet manufacturing plant in Glasgow, Va. The plant addition more than doubles the plant capacity of carpet yarn. Other new facilities include a blending room and a spacious warehouse. Complete heating, air conditioning, and ventilation equipment were provided in order to maintain comfortable working conditions as well as to maintain the exacting atmospheric conditions required for the manufacture of high grade yarn. The air conditioning installation, said to be one of the largest central plant systems in the United States, uses for refrigeration two 215-ton centrifugal compressors. To take care of expanded operations, the boiler house was also enlarged by installing an additional boiler with the necessary equipment. * * * Further plans for expansion, involving an expenditure of $6,000,000 in 1956, have been announced by the company's president, Joseph L. Eastwick, who said that one-third of the amount will be used for tufted carpet facilities.

Linway Manufacturing Co. of New York, a new concern which recently purchased the Palmetto (Ga.) Cotton Mills, has also acquired **Washington Manufacturing Co.**, Tennille, Ga.

A proposed merger of **Locke Cotton Mills Co.**, Concord, N. C., and **Randolph Mills, Inc.**, Franklinville, N. C., was scheduled to become effective Dec. 31, 1955, subject to approval of stockholders.

M. Lowenstein & Sons, Inc., recently purchased the complete cotton operations of **Pacific Mills**, a member of Burlington Industries, Inc. Included in the transaction were the Olympia, Granby, Capital City, and Richland plants at Columbia, S. C., and a grey sheet mill and sheet factory and finishing plant at Lyman, now called Lyman Printing & Finishing Co. Pacific Mills Fabrics, Inc., is the name of the new Lowenstein subsidiary established to operate these mills. Donald B. Tansill, president of M. Lowenstein, is also president of Pacific Mills Fabrics, Inc., and John E. Crossland vice-president and general manager.

Exchange of stock was expected to be completed by the end of 1955 to form a merger by which **Morganton (N. C.) Full Fashioned Hosiery Co.** would acquire control of **Drexel (N. C.) Knitting Mills Co.** Operation of the two companies, which are already related through major interests and stockholders, would be unified by the merger.

Nesca Inc., sweater knitters, have leased 13,000 sq ft of floor space in Mill B which formerly was operated by Goodall Fabrics at Sanford, Me.

The sale of **NoMend Hosiery, Inc.**, Philadelphia, Pa., to **Berkshire Knitting Mills**, Reading, Pa., has been approved by directors of both companies. Under the merger plan NoMend is to become a division of the parent organization.

Construction of a 60,000 sq ft, $500,000 garment plant in Opelika, Ala., is planned by **Opelika Mfg. Corp.** Boyd E. Scott has been named manager of the new factory, which is scheduled to be in

YOU SAVE ON EVERY DYEING OPERATION

WITH GASTON COUNTY'S RUGGED DYEING MACHINES!

High pressure, high temperature dyeing of today's new synthetic yarns is a precision process. To maintain top level performance, all Gaston County package dyeing machines are equipped with DYEMASTER Controls. Gaston County's *Positive control and unequaled ruggedness* of construction assure greater economy of operation and upkeep.

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GASTON COUNTY DYEING MACHINE CO.

Pioneers in Automatically Controlled Dyeing Machinery

STANLEY, N. C.

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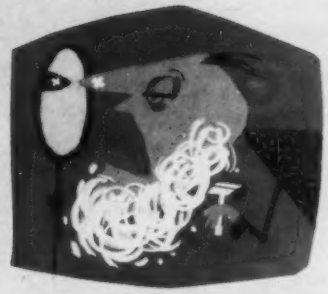
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St., W., Montreal
137 Wellington St. W., Toronto

1. This is the story of an ordinary man . . . worked from 9:00 to 5:00 . . . raised hamsters in his spare time . . . steered clear of doctors.

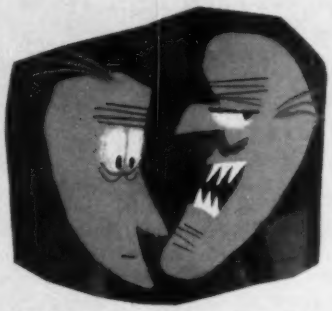
2. Oliver did twenty push-ups every morning . . . took long bracing walks in the fresh air . . . made sparing use of condiments and stimulants.



3. Then one day while he was shaving, he noticed a small lump. An icy hand reached out and clutched at his heart . . . This was it—CANCER!

4. Overnight Oliver became a changed man. He gave his hamsters to a neighbor, bought a small harp and a booklet entitled "Harp-playing for Beginners."

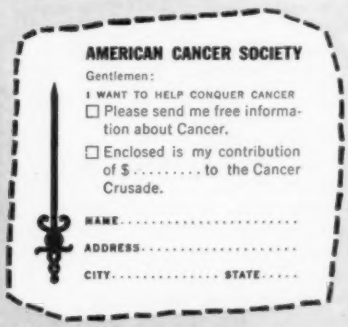
5. Instead of taking long bracing walks, he tottered into his lawyer's office, cut two nephews out of his will and hastily added a couple of codicils.



6. His lawyer, a man of real intuition, knew that where there's a will there's a way, and firmly bullied Dancer into seeing a doctor.

7. A complete checkup showed he was in perfect health, except for a minor tone deafness that would preclude much skill with the harp.

8. Dancer was so overjoyed he promptly went home and made out a very large check to the American Cancer Society, and that's what you should do, too.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☐ Please send me free information about Cancer.
☐ Enclosed is my contribution of $ ..... to the Cancer Crusade.
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CITY ..... STATE .....

9. (MAIL TO: CANCER, c/o your town's Postmaster.) Help others and help yourself. Fight Cancer with a checkup and a Check.

What the TEXTILE MILLS are doing

production by June.

J. Rossie Velvet Co. Inc., Mystic, Conn., has been purchased by Harry W. Baumgarten, who replaced Mr. Rossie as president. Albert Schwartz is now secretary-treasurer.

The synthetic fibers spinning operation of **Rex Mills, Inc.,** Plant No. 1 in Ranlo, N. C., is being increased by a 35,000 sq ft addition scheduled for completion late this spring.

Reeves Bros., Inc., is the name of a new company formed as the result of a merger of **Fairforest Co.,** Spartanburg, S. C., **Mills' Mill,** Greenville, S. C., **Chesnee (S. C.) Mills,** and **Warrior Duck Mills,** Spartanburg, S. C., **Osage Mfg. Co.,** Bessemer City, N. C., and **Grace Cotton Mill Co.,** Rutherfordton, N. C. John M. Reeves is president of the corporation.

A completely integrated unit for the production of venetian blind ladder tape is in operation at **The Russell Manufacturing Co.'s** Bennettsville, S. C., plant, as the result of modernization and the transfer of certain operations from other plants. Warping, weaving, finishing, and packaging of venetian blind tape now take place in Bennettsville. A completely air conditioned weave room is provided. * * * "Ruslon 555," a new and improved venetian blind tape woven of Firestone Velon, has been introduced by Russell. Available in a wide range of decorator colors, the tape is dust resistant, can be kept clean merely by wiping, nests neatly, hangs flat, and does not stretch.

Stead & Miller Company has reorganized its design staff and engaged designer Arthur A. Brill and stylist Dorothy Liebes. The move is the foundation for Stead & Miller's immediate plans to increase the range and styles of its upholstery line, reenter the drapery field, and become a leader in the manufacture of correlated groups of fabrics for home furnishings.

Stockholders have approved the merger of **Wellington Mills, Inc.,** of Anderson, S. C., into **West Point (Ga.) Manufacturing Co.** Operations heretofore carried on by Wellington are expected to be continued by a new corporation wholly owned by West Point.

SUPPLIERS News WHAT THEY ARE DOING

W. G. Frank, who has been with **American Air Filter Co.** since its organization in 1929, was recently elevated from executive vice-president to president, replacing W. M. Reed, who is now chairman of the board. At the same time, Ben R. Shaver was made vice-president and treasurer

A New and Better Stainless Steel Dye Sleeve for B-C Winders

The heavier gauge stainless steel used in this new sleeve supplies its own rigidity and eliminates ribbing. This permits greater hole area and assures much faster dye penetration. Beaded and flared bottom prevents yarn slippage. This simplified construction saves up to 15% in initial cost. Greater strength gives longer service.

All sleeves are perfectly sized for roundness and the holes are evenly spaced for uniform dye penetration. Ends are 100% level and rounded to prevent snagging. Write today for samples and quotations.

Several hundred thousand sleeves of this type are now giving superior service on Foster, Abbott, and Universal Winders.

TOOL SERVICE ENGINEERING CO.
309 W. Crowell St. Monroe, N. C.

FROM WICA

The Truth about 'Wash and Wear'

The public wants more and more *wash and wear* fabrics. It's a dynamic, exciting concept, and the public is buying.

Like many other textile innovations, *wash and wear* has its pitfalls. The public welcomes freedom from the ironing board, but it doesn't want to be asked to wear shapeless, hot, clammy, baggy clothing.

There are right and wrong ways to give fabrics a *wash and wear* quality. No one "patent medicine" exists to do this job. There are no shortcuts, no absolutes in the *wash and wear* field.

Sound chemistry can solve any *wash and wear* problem. But the plain truth is, each fabric and each use is a separate problem. As a basic manufacturer of products required for *wash and wear*, Wica has seen *wash and wear* assignments for years in its own laboratories. Wica has licked every problem so far. May we do the same for you?

WICA

DIRECT INQUIRIES TO: WICA CHEMICALS, INCORPORATED • OLD CONCORD ROAD • CHARLOTTE, N. C.

and E. G. Mason secretary.

Exclusive distribution arrangements have been completed whereby **American Safety Razor Corp.** will sell and install Ven De Wiele looms in the United States and Canada. The arrangements have been made with the **Fonderies et Ateliers de Constructions Michele Van De Wiele,** S. A., of Marke, Belgium, manufacturer of carpet, tapestry, and jute looms. To handle the distribution of these looms, ASR has set up an Industrial Products Division at Staunton, Va., headed by David M. Nason

Mr. Nason

who is responsible for the marketing of the present line of industrial products including pile wires and blades and other products currently used in the textile and other industries, and the development of new industrial products and markets. Mr. Nason will be assisted by Albert Signoret, who recently returned from an engineering indoctrination course conducted at the Van De Wiele factory, and by Michael Sarullo, industrial products engineer.

Fritz Preysch of Winterthur, Switzerland, is now president of the **American Rieter Co., Inc.** Other officers are: Executive vice-president, Rene O. Halter; vice-president and secretary, John F. Dulken; vice-president and treasurer, Carl Rosenthal.

The invention and commercial development of a process for concentrating hydrogen peroxide solution to produce a nearly anhydrous hydrogen peroxide has been announced by **Becco Chemical Division,** Food Machinery & Chemical Corp. Preliminary bulletin No. 70, available from Becco, offers additional information.

W. E. Bassett has been appointed director of textile operations in the manufacturing department of **Celanese Corporation of America's** textile division. F. Murray Davidson succeeds him as manager of the customer service department. Both men

SUPPLIERS News — WHAT THEY ARE DOING

are located at the division's headquarters in Charlotte, N. C.

Assets of **Clinton Foods Inc.'s** corn processing division have been sold to **Standard Brands, Inc.,** and operation continues as a separate Clinton division of Standard Brands. No changes in personnel at the office or in the field are contemplated.

Recent elections at **Corn Products Refining Co.** include John R. Rhamstine, executive vice-president; William T. Brady, first vice-president; and William H. Gamble, senior vice-president.

Independent tests conducted by South Florida Test Service on **Courtaulds (Alabama) Inc.'s** solution-dyed rayon staple indicate that the slate grey, silver grey, tan, peacock blue, turquoise, terra cotta, medium brown, and black, in the Coloray series are now colorfast to light up to at least 500 hours direct exposure to the sun.

Effective Dec. 31, 1955, H. F. Vogt

To be sure! YOU CAN GET BETTER PRODUCTION IN YOUR PLANT

TIME RECORDER-TOTALIZER

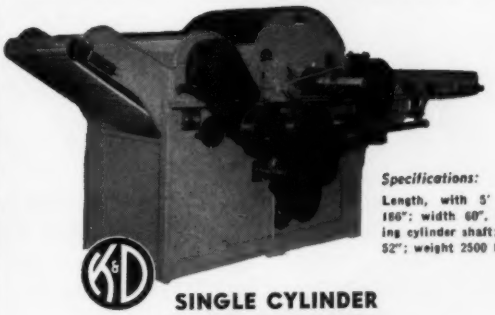
PRICE $55.

• This precision instrument provides accurate, permanent, chronological data about any machine, process or system in plant or office ...on a continuous chart-roll which lasts four months. Uses no ink. Totalizer shows accumulated "on" time.

descriptive literature TI on request

STANDARD INSTRUMENT CORPORATION DIV.
HEAT-TIMER corporation
657 BROADWAY, NEW YORK 12, N.Y.

For More Efficient WASTE PROCESSING . . .



Specifications:
Length, with 5' apron, 186"; width 60", including cylinder shaft; height 52"; weight 2500 lbs.

K&D

SINGLE CYLINDER WASTE MACHINES

SAVES WASTE, SPACE and COST!

Requiring only half the floor space and half the power, K & D Single Cylinder Waste Machines provide double action on a single cylinder, with better results than ordinary waste machines. Eliminate two-thirds the usual gearing, with fewer stops, less down time, less maintenance. Reduce fire hazards. Reduce damaged fibers. K & D Waste Machines produce a larger percentage of usable fiber. Write for complete information and prices.

Kirkman & Dixon Machinery Co.
P. O. Box 1027 Greenwood, South Carolina
MANUFACTURERS OF THE SRRL OPENER—Inquiries Invited.

The Textile Shops

SPARTANBURG, S. C.
U. S. A.

ANNOUNCES ITS APPOINTMENT AS BUILDER OF THE REVOLUTIONARY AND VERSATILE . . .

BOND DYEING AND WASHING MACHINE

CONSIDER THESE OUTSTANDING ADVANTAGES OF THE BOND MACHINE:

1. FASTER DYEING. Dyeing time is considerably reduced with the BOND MACHINE. In dyeing vats, for example, fixation takes place in 0.83 second when running at 70 yards per minute.

2. MORE ECONOMICAL. Because dye is forced into fabric under liquid pressure, considerable saving in chemicals is achieved. Entire range requires only two men to operate.

3. BETTER QUALITY DYEING. All formulas are measured volumetrically. Colors may be mixed regardless of exhaust rates or substantivily.

4. VERSATILITY. The BOND MACHINE can process various types of fabrics and all classes of dyes.

5. FLEXIBILITY. Short runs can be dyed and finished economically. Color changeovers can be quickly accomplished.

6. SAVES FLOOR SPACE. The BOND MACHINE requires only 500 square feet of floor space for a five unit range 50" width = 1/3 as much as comparable finishing machines.

7. LOW TENSION OPERATION.

8. LIQUID PRESSURE. Minimized mechanical pressure. Least distortion or damage to delicate fabrics. This process practically approaches theoretical flash point dyeing.

9. AUTOMATIC CONTROLS. Automatic Temperature and pressure controls help achieve uniform results in color and fastness.

10. STAINLESS STEEL CONSTRUCTION. Made of Type 316 stainless steel. Withstands corrosive chemicals and vapors with a minimum of maintenance.

THE TEXTILE SHOPS will be responsible for engineering, sales, and service of BOND MACHINE and your inquiries will be appreciated and given prompt attention without obligation.

INQUIRE FOR FURTHER DETAILS FROM

THE TEXTILE SHOPS
SPARTANBURG, S. C.

SUPPLIERS News
WHAT THEY ARE DOING

retired as chairman of the board of **Cutler-Hammer, Inc.,** after 56 years of active service with the company. G. S. Crane was elected to replace him, and Philip Ryan was elected president and chief executive officer.

The Holfast division of **Dayton Rubber Co.** is in full production in its new plant at Atlanta, Ga. Natural and synthetic rubber rollers for the textile industry are being manufactured.

E. I. du Pont de Nemours & Co., Inc., recently announced plans for increase of production facilities at its Martinsville, Va., nylon plant involving the erection of new buildings costing approximately $300,000.

W. F. Fancourt & Co. has appointed Willard Kramer Sawyer as salesman and technical advisor to mills in the South. Mr. Sawyer, who was formerly superintendent of dye-

Mr. Sawyer

ing at Glen Raven Knitting Mills, Inc., now has headquarters at Fancourt's southern office, 846 S. Main St., Burlington, N. C.

The Foxboro Company is doubling the size of its training and education center. Scheduled for completion early this year, a new building will accommodate 46 trainees. As part of the expansion program, Norman A. Anderson and John B. Parkes, Jr., have been added to the staff of instrumentation instructors.

Coincident with a recent merger, **Gaylord Container Corp.** has become a wholly-owned subsidiary of **Crown Zellerbach Corp.,** and is now known as Gaylord Container Division of Crown Zellerbach.

The Hartford Machine Screw Co. has established a plant for its southern division at Whitehorse Road North (Route 3, Box 314), Greenville, S. C., headed by A. E. Winslow. Facilities are provided to service

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

Metal Protection for Wood Turnings

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.

So Smooth—So Strong So Thrifty

DODENHOFF Anti-Friction *Dobby Loops**

Their roller bearings give you the smoothest rolling harness you ever saw. Easy on jack levers, too. Stamped steel and case hardened cleats and rollers give triple strength and service.

Put Dodenhoff Anti-Friction Dobby Loops on your heads and you'll save money on replacements and in down-time. Order a supply today or write for samples and prices.

Carried in stock.

Standard roller and bearing

Heavy duty holds tight

*Patented

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

A typical case history that proves

AUTOMATION

in the textile industry

is SACO-LOWELLIZING

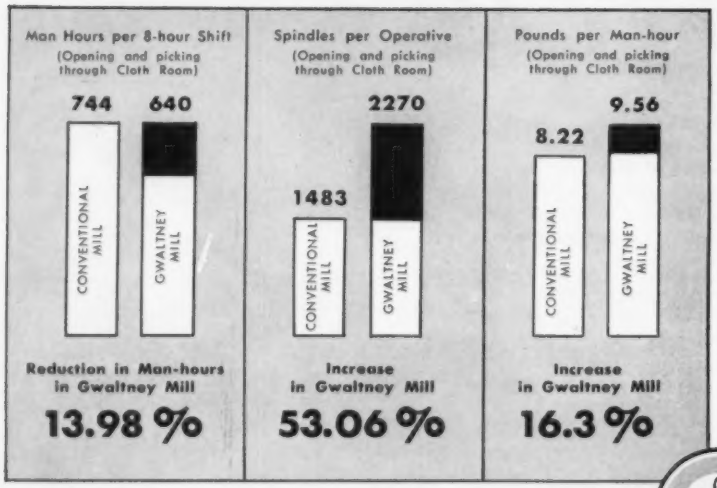
An INCREASE IN PRODUCTION per man hour, HIGHER YIELD from your raw stock, and LOWER PRODUCTION COSTS are all developed in the Saco-Lowellizing program. This program creates the improvement in quality and savings in cost so essential to MAINTAINING PROFITABLE OPERATIONS under the present-day highly competitive conditions prevailing in every branch of our industry.

Contact your nearest Saco-Lowell office — one of our sales engineers will prepare a "Forecast of Savings" based on a Saco-Lowellizing program for your mill.

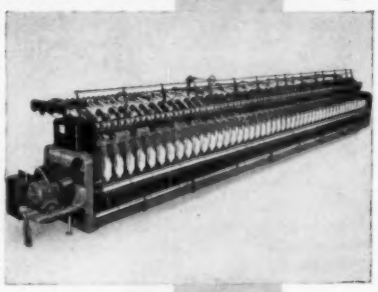
Here are the results from a recent case history:

Type of Goods	**— 39" 80 x 80 4.00-yd. top quality print cloth**
No. of Looms	**— 824**
Production per 8-hour Shift	**— 6120 lbs.**
Count of Warp	**— 31's**
Filling	**— 41's**

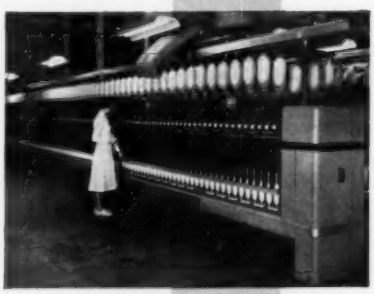
NO. OF SPINDLES	CONVENTIONAL MILL 40,032	SACO-LOWELL GWALTNEY MILL 38,592



36 Deliveries
4 Over 5 Versa-matic* Drawing



12 FS-2 Slubbers
Size 12 x 6, 80 spindles each.



134 Gwaltney Frames
3½" gauge, 288 spindles each

*Trademark

SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

SUPPLIERS News — WHAT THEY ARE DOING

promptly and completely the Hartford spindles operating in the South.

William S. Johnstone, with headquarters in Greenville, S. C., is the new sales representative for **Graton & Knight Co.** in the area which in-

Mr. Johnstone

cludes South Carolina and eastern Georgia.

A new building to double the office space of **Ideal Industries, Inc.,** and **Ideal Machine Shops, Inc.,** of Bessemer City, N. C., has recently been completed.

Industrial Rayon Corporation received the "Joshua" plaque for the most distinguished use of match book advertising in the textile industry during 1955. C. James Proud, assistant to the president of the Advertising Federation of America, made the presentation, which was accepted by Jack D. Lesslie, advertising and sales promotion manager of Industrial Rayon.

William E. Iannone, formerly with Warwick Chemical Co., has joined **Metro-Atlantic, Inc.'s** Pigment Printing Colors Division as southern man-

Mr. Iannone

ager. He maintains a technical service laboratory and office at the Greenville, S. C., plant.

National Aniline Division, Allied Chemical & Dye Corp., has announced the appointment of Oliver M. Morgan as director of chemical sales and Harold L. Rieg as director of dye-

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR—EQUIPMENT—MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"We have found them to be a very high type concern and are glad to recommend them to anyone interested in the type of work they sell."
A SMALL SOUTHERN HOSIERY MILL

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President — H. B. CRAFT, Vice President and Manager of Operations

250 PARK AVENUE, NEW YORK 17, N. Y. — GRANT BUILDING, PITTSBURGH, PA. — 30 CAMDEN ROAD, ATLANTA, GA.

The ROTARY UNION
Reg. U. S. Pat. Off.

is the *Only* Revolving Steam Joint with *All* these Essential Features

- ☑ **Ball Bearings** Reduce friction drag and power consumption
- ☑ **Precision Mechanical Seal** (Packless) Less down time — higher speeds — greater production
- ☑ **Self-Adjusting to Pressure**
- ☑ **Self-Aligning to Strain**
- ☑ **Double Strength Syphon Support** Minimizes wear and falling off of Syphon Pipes
- ☑ **Permits Field Repair**
- ☑ **Engineering Service in Principal Cities**

Contact our nearest office or write **Bulletin 700-T**

"Where Good Connections Count"®

PERFECTING SERVICE CO.
(Home Office and Factory)
332 Atando Ave. Charlotte, N.C.

Less man-power and more **hydraulic** power in lift trucks—the **American Safeway** Truck helps you move, stack, lift or lower heavy goods in your plant with greater efficiency. **23 models**

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The American Pulley Company

MATERIALS-HANDLING DIVISION

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Philadelphia 29, Pennsylvania

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YOU CAN USE THE HELP OF "T. I."

An industrial publication like TEXTILE INDUSTRIES has only one purpose. It is not to amuse you. It is not to inform you about life. It's only purpose is to help you with the practical problem of doing a better job in textile manufacturing.

Your subscription to TEXTILE INDUSTRIES is not an expense. It is as important an investment as the investments made in tangible machinery and equipment that increase production and efficiency. Yet, in comparison, the cost is infinitesimal.

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Now Made For

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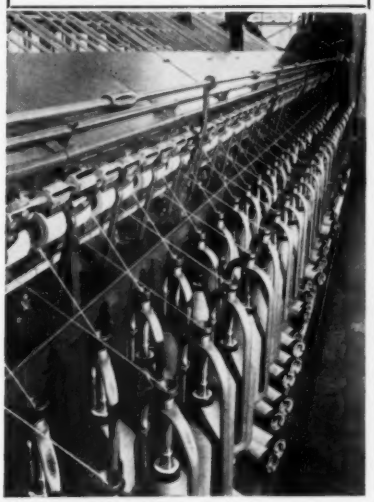
Sizes of Flyers



HALO...

TWIST CONDENSERS
ROVING PRETWISTERS*

The two design HALO TWIST CONDENSER gives maximum pretwisting and uniformity of twist on all flyers. One design fits on the front flyers and one fits on the back.

Condensers fit snugly on the flyer and are made of synthetic rubber so as not to be affected by oils on fibers.

In extensive tests actually in the mills, it has been proved that the HALO TWIST CONDENSER effects the following conditions: less ends down, less waste, heavier bobbins, more uniform yarn, up to 20% higher production, and lower costs.

Write for details today. Orders will be filled in one to ten days.

*"PAT. APPL'D FOR"

Tillicum

RUBBER COMPANY

LACEY WASHINGTON

SUPPLIERS News — WHAT THEY ARE DOING

stuff sales and branch operations.

Nopco Chemical Co.'s Textile Chemicals Division has announced the appointment of James F. Cairns for the sale of its textile processing chemicals in the North Carolina territory, and Robert A. Jones to cover the New Jersey and Pennsylvania territory.

Three field sales engineers have been promoted by **Minneapolis-Honeywell Regulator Co.'s** Industrial Division: James W. Hughes—regional industrial sales manager for the midwest region with headquarters in Chicago; Raymond A. Zack—industrial sales manager in the Hammond, Ind., branch office; and Paul R. Sharadin—regional application engineer for the southwestern region with headquarters in Dallas, Texas. * * * The Micro Switch Division has opened

Mr. Schultz

a branch office at 212 Greystone Rd., Charlotte, N. C., headed by Donald S. Schultz.

The Multiple V-Belt Drive & Mechanical Power Transmission Association has elected Joseph E. Maurey of Maurey Manufacturing Corp., Chicago, as president. Vice-president is H. Merrill Bowman of The American Pulley Co., Philadelphia.

George E. Mansfield heads the New York area office of **Hobbs Manufacturing Co.**, which has recently been moved to 821 Eighteenth Ave., Irvington, N. J.

A. F. List, formerly president of the Main Belting Co. in Philadephia, is now sales manager of the belting division of **Russell Manufacturing Co.**

Howard R. Williams is now representative for **Union Special Machine Co.** in the entire state of Connecticut and portions of New York State.

DARNELL ..ready with the answers to your CASTER WHEEL problems...

WRITE for this new DARNELL MANUAL

DESCRIBING OVER 4000 TYPES OF CASTERS AND WHEELS

All types of rubber treads—soft, medium and hard—for smooth operation on all kinds of floors. Featuring Neoprene rubber treads - resistant to oxidation, oils and waxes as well as being unaffected by most chemicals - expertly compounded to Darnell standards.

All casters, whether steel or rubber tread, available in swivel and stationary models with various top plates, stems and fittings for any type application.

Darnell Casters and Wheels

Always SWIVEL and ROLL

DARNELL CORPORATION, LTD.

DOWNEY (LOS ANGELES COUNTY) CALIFORNIA

60 WALKER STREET, NEW YORK 13, NEW YORK

36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

Order M&W TENTERETTES

A Small Tenter For Your Special Needs

M & W Tenterette: 30", 80" or 100" long, using our No. 12 tenter clip. We build to any maximum width, with either straight or hinged rails. Serves many uses.

These short tenters are made *only* by M & W — one of our specialties, developed to answer special needs in many foremost finishing plants.

We can promptly supply full data — advise you how M & W Tenterettes, and other devices like our Constant Tension Batchers, can fill long-felt needs in your plant that no other machinery satisfies. Write today for information on —

√ *Tenterettes*

√ *Constant Tension Batchers*

Ask For Details Without Obligation

MARSHALL and WILLIAMS CORPORATION

PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.

The BEST is Always a BARGAIN

Lane Style 27 STANDARD UTILITY TRUCK

For a long-wearing utility truck, to use in all departments of your mill, insist on the Lane Style 27. The tough, snag-proof duck body, built over a strong, resilient frame, will give low-cost dependable service because of these exclusive Lane features:

- Spring-steel frame, cross-braced hardwood bottom platform, double-riveted construction, make light, strong, long-lived truck.
- Lane quality duck body, specially tanned leather binding, 4-ply strap handles, combine for greatest strength, durability.
- Rubber wheels, moulded around bronze, self-lubricating bearings. Tilting stationary or swivel casters.
- In eight standard sizes.

To be SURE of the best, INSIST ON LANE Style 27 Canvas Utility Truck

Write for information.

1112

Canvas Basket Craftsmen Since 1894

Lane

W. T. Lane & Bros., Inc., Poughkeepsie, New York

SUPPLIERS News
WHAT THEY ARE DOING

R. Frank Walker has been named sales engineer for the spinning ma-

Mr. Walker

chinery division of **Roberts Company** in Georgia, Alabama, and Tennessee.

Sonoco Products Co. has opened a southwestern sales office in Longview, Texas, headed by M. B. Griffin, formerly of the Birmingham office.

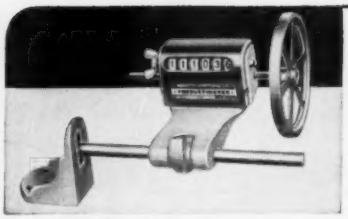
Henry Thompson is now sales manager for **Ra-Vac, Inc.,** at High Bridge, N. J. Formerly an official of the Triangle Finishing Corp., Mr.

Mr. Thompson

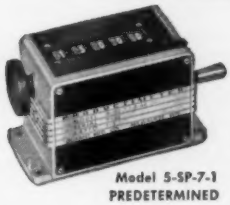
Thompson is introducing Ra-Vac's fiber glass super heaters to the textile industry.

Kenneth H. Barratt, with headquarters in Boston, is now sales representative in the latex and Lotol department of the Naugatuck Chemical Division, **United States Rubber Co.**

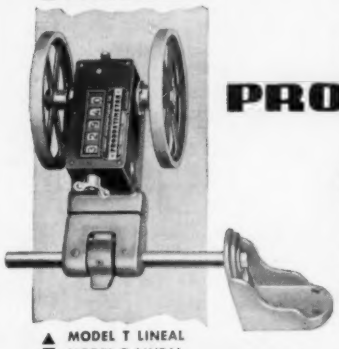
Tennessee Corporation announces the purchase by its subsidiary, Tennessee Copper Company, of the sodium hydrosulfite, sulfoxalate, and zinc oxide manufacturing facilities of the **Esmond Chemical Company,** Esmond, R. I. It is planned to move this equipment to Copperhill, Tenn., where Tennessee Copper Company operates its mines and several large chemical plants. The location of the new plant at Copperhill will provide a source of these chemicals close to immediate consuming areas. Major



▲ MODEL H LINEAL

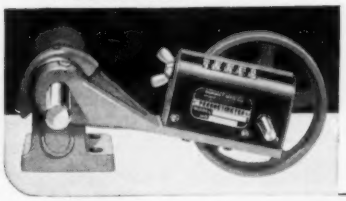


Model 5-SP-7-1
PREDETERMINED



▲ MODEL T LINEAL
▼ MODEL D LINEAL

An ACCURATE, DEPENDABLE
PRODUCTIMETER
for every type of...
TEXTILE JOB
Send for descriptive literature
DURANT MANUFACTURING CO.
1973 N. Buffum St. Milwaukee 1, Wis.
173 S. Water St. Providence 3, R. I.
Representatives in Principal Cities



Model 5-H-7-1-R
END DRIVE ROTARY

BENJAMIN BOOTH COMPANY, the originators of STRIP-O-MATIC card clothing, manufacturers of a complete line of quality card clothing
ANNOUNCE
SUPR-O-TAPE
THE PROVEN FABRIC
CONDENSER TAPE

NOTE THESE ADVANTAGES:

- LONG LIFE
- NO STRETCH
- HIGH STRENGTH
- NO SURFACE CRACKING
- NEEDS NO OIL
- HOLDS SQUARE EDGES INDEFINITELY
- CAN BE MADE ENDLESS IN ANY LENGTH
- LOW IN COST

Write the Benjamin Booth Company today for full details and prices.

BENJAMIN BOOTH COMPANY,
ALLEGHENY & JANNEY STS., PHILA., PA.

Booth

Get the most out of your desizing agent!

DESIZE WITH EXSIZE-T

★ EASY TO USE!

★ RELIABLE!

★ ECONOMICAL!

★ SAFE!

Here is an easy-to-use, economical desizing agent which is absolutely safe on all fabrics . . . a quick and complete starch digester . . . always dependable.

So, if you need a reliable, efficient agent for preparation of cloth prior to bleaching, dyeing, printing and special finishing, it's to *your* advantage to investigate Exsize-T!

For more information, write to

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Chicago 1, Illinois

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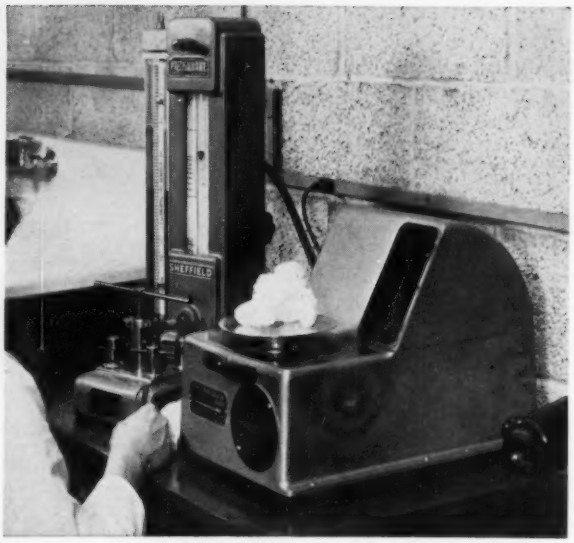

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assures accuracy in MICRONAIRE test

This scale is precision designed for weighing samples in conjunction with the Sheffield Micronaire testing machine. Extreme accuracy, plus greater speed and easy-to-read shado-edge indication has made it the choice of cotton shippers, brokers and mills both here and abroad. Indication by a shadow line is projected on an illuminated dial. You avoid the possibility of parallax readings. Friction of indicating mechanism is eliminated. Short lever fall together with hydraulic damping action assures an always fast and accurate weight measurement. Dial is graduated with 1" of indicator travel equal to 15 grains, over and under. Scale does not require leveling—can be used in any location.

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MODEL 4104-A

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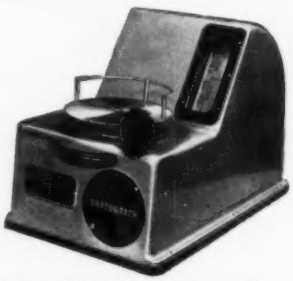

Exact Weight scales also available for color control, slashing, sliver test, yarn count, quality control, denier testing and check weighing. Sales and service coast to coast.

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SUPPLIERS News — WHAT THEY ARE DOING

industries to be served from this plant include textile, clay, rayon, and rubber processing plants. The move will be made in such manner as to afford continuous service to Esmond's present customers.

Testworth Laboratories, Inc., recently acquired the plant and property formerly occupied by Mandeville Mills at Carrollton, Ga. The 90,000 sq ft of manufacturing and warehouse space is being used by Testworth to produce latex compounds for the carpet, upholstering, and paper converting industries. Ty Cobb is manager of the new plant.

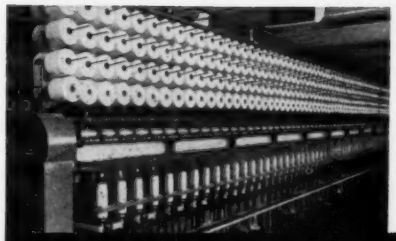
Jack W. Taylor has joined **Uster Corporation** as testing equipment sales engineer, having recently been

Mr. Taylor

released from service in the navy. Prior to his naval service, Mr. Taylor was laboratory supervisor at Joanna (S. C.) Cotton Mills Co.

Effective last December, Thomas P. O'Connell was promoted to superintendent of erectors and also placed in charge of factory building schedules for **Whitin Machine Works,** succeeding George F. McRoberts, who has assumed wider responsibility as advertising manager for both Whitin Machine Works and its new subsidiary, Whitin Business Equipment Corp. Mr. McRoberts will be in charge of the advertising, catalog, and photographic departments. * * * H. J. Theiler Corp. has been appointed selling agent in the United States and Canada for the Fill-Master automatic filling winder being built by Whitin under license from Schweiter, Ltd., Horgen (Zurich), Switzerland. The machine is also available from the Whitin sales organization.

Hugh S. Ferguson, president of **Dewey & Almy Chemical Co.** Division of W. R. Grace & Co., has been named executive vice-president in



Tops for Cotton Tire Cord Paper

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Collins Big Ring Twisters produce 4 to 12 lb. packages of exceptionally clean knotless yarns, when employing a 6 to 8 in. ring size.

High Speeds are possible because Collins Big Ring Twisters are equipped with large diameter pulleys, anti-friction idlers, ball bearing front roller stands, large diameter feed rolls, and roller bearing spindles.

Low Cost is achieved through increased twisting and winding efficiency. *Quality* is inherent in big packages of knotless yarns. Write for full information on Collins Big Ring Twisters and Collins convenient financing plan.

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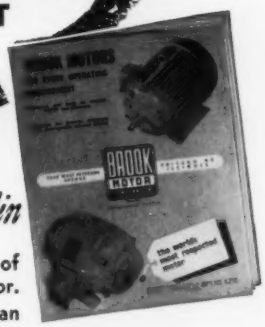
CHARLOTTE • CHICAGO • TORONTO
There is a Collins Twister for Every Ply Yarn Construction

BROOK MOTORS
FOR EVERY REQUIREMENT
1 TO 500 H.P.



Write for this Helpful Bulletin

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Available in Open Drip Proof or Splash Proof, Totally Enclosed Fan Cooled, Totally Enclosed Non-Ventilated, NEMA "C" Flange, Extended Shaft Pump Motors and other types—all built better to deliver power at minimum cost.

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Brook Motors are available from warehouses at: Chicago; Miami, Fla.; Jersey City, N. J.; Houston; Dallas; Los Angeles; San Francisco; Seattle; Salt Lake City; Savannah, Ga.; and other major distributing points.

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Consult Your Brook Motor field engineer.

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SUPPLIERS News — WHAT THEY ARE DOING

charge of the chemical group in the parent company.

Lon Nave has been transferred from the **American Bemberg** plant in Elizabethton, Tenn., to the New York

Mr. Nave

sales office, where his work includes new sales developments in both textile and industrial fields.

American Radiator & Standard Sanitary Corp. is dissolving the Kewanee-Ross Corp. The Ross Heat Exchanger Division has been formed to conduct the heat exchanger operations of Kewanee-Ross, and the Kewanee Boiler Division is conducting the steel boiler activities.

New sales representatives of the industrial products division of **Tyer Rubber Co.** are D. L. Blyth and David Abbot. Mr. Blyth's territory includes eastern Massachusetts, New Hampshire, and Maine. Mr. Abbott covers western Massachusetts and Connecticut.

Radiant Heat Enterprises, Inc., 623 Morris Ave., Springfield, N. J., has been organized by Thomas F. Walsh, sales manager; Chung Sheng Na, textile engineer, and Bruce Boden. The company is marketing an electroceramic radiant heater designed by Mr. Boden as the basic unit in the stabilizing, drying, and curing systems which the new firm is building for industry.

Construction has started on a new research center for **L.O.F. Glass Fibers Co.** near its textile yarn and bonded mat manufacturing plant at Waterville, Ohio. Dominick Labino has been appointed vice-president and director of research for the company; Ellsworth Smith, technical director; and Vernon Waltz, Jr., service manager of the new center.

News in Brief

(Continued from page 109)

Georgia Tech Short Courses. The following short courses will be held at Georgia Tech during February: Materials Handling, Feb. 9-11; Work Simplification and Work Measurement, Feb. 13-24. Inquiries concerning attendance should be addressed to C. H. Taylor, Coordinator, Short Courses and Conferences, Georgia Institute of Technology, Atlanta, Ga.

Australian Cotton Industry. There were 96 cotton spinning and weaving mills, employing 9,470 people, in Australia as of June 30, 1955, according to Australian government figures.

Farm Bureau Cotton Program. A seven-point cotton program was approved by the board of directors of the American Farm Bureau Federation at its recent annual meeting: 1. Action by the govern-

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Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

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Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL
WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS

for C & K and Draper Looms

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Adjustable head with fixed shaft, or fixed head with removable shaft.

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ment to regain the export market. 2. Offer farmers negotiable options to buy CCC cotton at reduced prices for reducing their cotton acreage below allotments. 3. Base support level on average quality of the crop. 4. A greatly expanded public and private research program. 5. Improved price support program. 6. Negotiation with foreign countries to prevent excessive exports to the U. S. 7. Labeling of textiles to show fiber content.

Air Force Textile Aging Tests. Comparative effects of outdoor exposure and accelerated aging on cotton, rayon, nylon and other synthetics, plastic materials, and coated fabrics are described in a report just released by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. The research described in this report was done by the U. S. Air Force Air Materials Command to determine the reliability of an accelerated weathering unit (Type X1A, no water spray) for testing fabrics, as compared with outdoor exposure tests. Ask for PB 111761, "Textiles: Accelerated Weathering Versus Outdoor Exposure Tests." Price, $1.25.

(Continued from page 113)

represent a gigantic "white elephant" and we are thankful that the decision is not ours as to what to do about it.

Whetting of Appetites

Learned observers of the textile scene have long been of the opinion that one of the major things needed to get us out of the doldrums is a drastic change in merchandising. A couple of months ago we reported to you the theory of the psychologist who held that many decisions as to which brand to purchase were made while the

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Important additions to your technical library, these two new RCA publications contain valuable data and descriptions of approximately 300 RCA tubes as applied to industrial electronics.

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POSITION WANTED: 20c per word per insertion; minimum charge $4.00 Cash with order. Box Number address care of TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

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6—9 x 4½ Saco Lowell Slubbers, Whitin Interdraft, 112 spindles, 7-1/2" gauge.
2—8 x 4 Saco Lowell Speeders, FSI long draft, 144 spindles, 6" gauge.
4—Whitin Model "N" Enclosed Hopper Feeders, motor driven.
1—34½" F-5 Kitson Feeder Hopper.
2—38½" F-2 Kitson Feeder Hoppers.
3—38½" F-5 Kitson Feeder Hoppers.
5—43½" F-5 Kitson Feeder Hoppers.
1—45" Finisher Picker, P & D Evener, for 4 laps.
2—40" Kitson Single Process Pickers, 3-beaters, with blending reserve.
3—40" Kitson Single Process Pickers, 2-beaters with blending reserve.
8—#7 Eveners for 40" Pickers.
8—16" Kirschner Beaters.
1—16" Aldrich Beater.
11—16" 2-blade Beaters.
2—Whitin Model B Spinning Frames, 216 spindles, 3" gauge, 2" ring, tape drive, Roth long draft.
2—Whitin Model A Spinning Frames, 216 spindles, 4" gauge, 2" ring, band drive, Conventional Draft.
42—40" Draper Model K Looms, 25 harness, dobby, double index, motor driven.
50—28" Warper Beams, 12" barrel, 54¼" between heads.
100—28" Warper Beams, 54½" between heads, 10" barrel.
3—#7 Sturtevant Fans, down-blast.
4—Saco Lowell #7 Terminal Heads, 2-bag unit.
4—Saco Lowell #34 Air Filters.
3—Saco Lowell 6-delivery Drawing Frames.
7—Saco Lowell 5-delivery Drawing Frames.
1—Parks & Woolson 105" Brushing & Shearing Unit, with J-Box.
2—106" Inspection Tables.
3—Curtis & Marble Tandem Cloth Inspection Tables, 1—108", 1—116", 1—98".
2—#6 Kitson Condensors.
2—#9 Saco Lowell Condensors.
2—Terrell Model L Quill Strippers.
1—Terrell Model L Pirn Stripper.
3—Brown Moist-O-Graphs.
2—5' Saco Lowell Slasher Cylinders—Copper.
2—7' Saco Lowell Slasher Cylinders—Copper.
5—Copper Lined Size Boxes.
2—P.I.V. Link Belt Drives.
1—#2 Reeves Drive with Beck Control.
1—#3 Reeves Drive with Beck Control.
500—10 x 36 Fiber Roving Cans.
4,000—12 x 36 Fiber Roving Cans.
10,000—Abbott Winder Cones—Cork Covered.
2,000—Abbott Winder Tubes.
250,000—8-3/4" 3-ring Quiller Quills.
50,000—9 x 4½ Saco Lowell Bobbins.
30,000—9 x 4½ Whitin-Woonsocket Bobbins.
3,700—1-3/4" #2 Flange Rings in cast iron holders, 2-3/16" base.
12,000—1-3/8" #1 Flange Rings in plate holders.
6,000—2-1/4" #2 Flange Rings in cast iron holders.
8,700—Cast Iron Holders for 2" #2 flange rings.

SOUTHERN MILL SUPPLY CO.

TEXTILE MACHINERY

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We will welcome an opportunity to be of service, if you are available for a position in the textile industry. SEND US YOUR RESUME. Many attractive positions at excellent salaries are open for top-notch men. No fee to be paid unless you accept employment through us. Negotiations are confidential. CHARLES P. RAYMOND SERVICE, Inc., 294 Washington St., LIberty 2-6547, Boston 8, Mass. Over 55 Years In Business.

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Old Motors or Burnt Out Frames. 75 to 300 H.P. Give complete name plate and condition.

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We buy and sell good used Quills, Slubber and Twister bobbins. Tell us what you need or what surplus bobbins you have for sale.

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WE HAVE A VERY ATTRACTIVE OPENING FOR A SALES ENGINEER TO REPRESENT US IN THE SOUTH. OLD ESTABLISHED AND WELL KNOWN FIRM. APPLICANT SHOULD BE FAMILIAR WITH MACHINES USED IN DYEING AND FINISHING, PREFERABLY CALLING ON TRADE AT PRESENT TIME. AGE 30-40. WILLING TO TRAVEL VIRGINIA AND NORTH CAROLINA STATES. CAR AND TRAVELING EXPENSES FURNISHED. SALARY OPEN. PLEASE SUBMIT COMPLETE RESUME AND PHOTO IF AVAILABLE TO BOX 738, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

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CARDING OVERSEER, TEXTILE GRADUATE, 12 YEARS SUPERVISORY EXPERIENCE, 20 YEARS EXPERIENCE IN TEXTILE OPERATIONS, 40 YEARS OF AGE. WILL CONSIDER ASSISTANT. Reply to Box 742, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

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TEXTILE INDUSTRIES

subject was asleep, with the subconscious mind doing the deciding. That was only one indication of the current interest in the subject. Time was when most mill men thought that "consumer motivation" was some sort of new French automobile, but that is all gone and long forgotten.

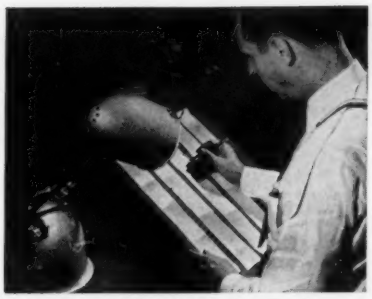
The new interest in this sort of thing is driven by the factual impact of statistics which show that year after year the textile industry gets far less than its fair share of the consumer dollar. The man on the street drools at the mouth for a new automobile with the Curvalure Windshield; for a television set with the knobs under the bottom of the receiver for easy tuning while standing on your head; or for a washing machine in Baby Blue with overtones of Bermuda Pink. With characteristic imagination, we in the textile industry continue to describe 80-squares as a fabric with 80 threads in the warp and 80 in the weft.

One of the most recent mentions we have seen of this sort of thing was in the *Avondale Sun*, published by the Avondale Mills, Sylacauga, Alabama. In this little paper, President J. Craig Smith quotes an interesting editorial from "Dyelines and Bylines," which, we believe, is published by American Cyanamid Company.

In commenting on this situation, Mr. Smith says that actually "we compete with automobiles, television, vacation travel, bubble gum, and every other product and service available to the public."

Most of us probably agree that the textile industry must do a better job of merchandising, but this again brings up a rather messy problem. How can a grey goods mill glamorize 64x60, or how can a yarn mill motivate a consumer or anybody else to an overpowering desire for 30s single?

And now that we have left you with two major, unsolved problems—what to do about the cotton surplus and what to do about consumer motivation—we shall fold our typewriter like the Arabs and silently steal away. Will Benson sell the cotton? Will Sally make up her mind between 80x80's and 64x60's? Read next month's installment for the thrilling answer!



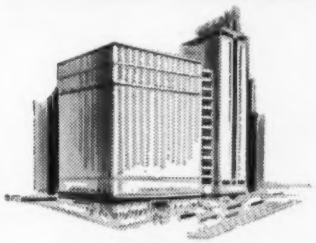
Magical Black Light Ends Color Matching Rejects

Here at last is a method that takes the guesswork out of color matching—and eliminates rejects. Under Blak-Ray light, even the slightest variations in color tones are visible. Plants report that perliminary inspection under black light is saving its cost every week by eliminating rejects before they happen.

Result: yarn and fabric manufacturers—spinners, weavers, knitters, finishers, bleachers, printers and throwsters—are fast adopting the black light system.

Full details are given in new Case History #111Z, available free from the Black Light Corporation of America. Distributors for Ultra-Violet Products, Inc. 5114 Walnut Grove Avenue: San Gabriel, California. Distributors in principal cities.

Everything's New at DINKLER HOTELS



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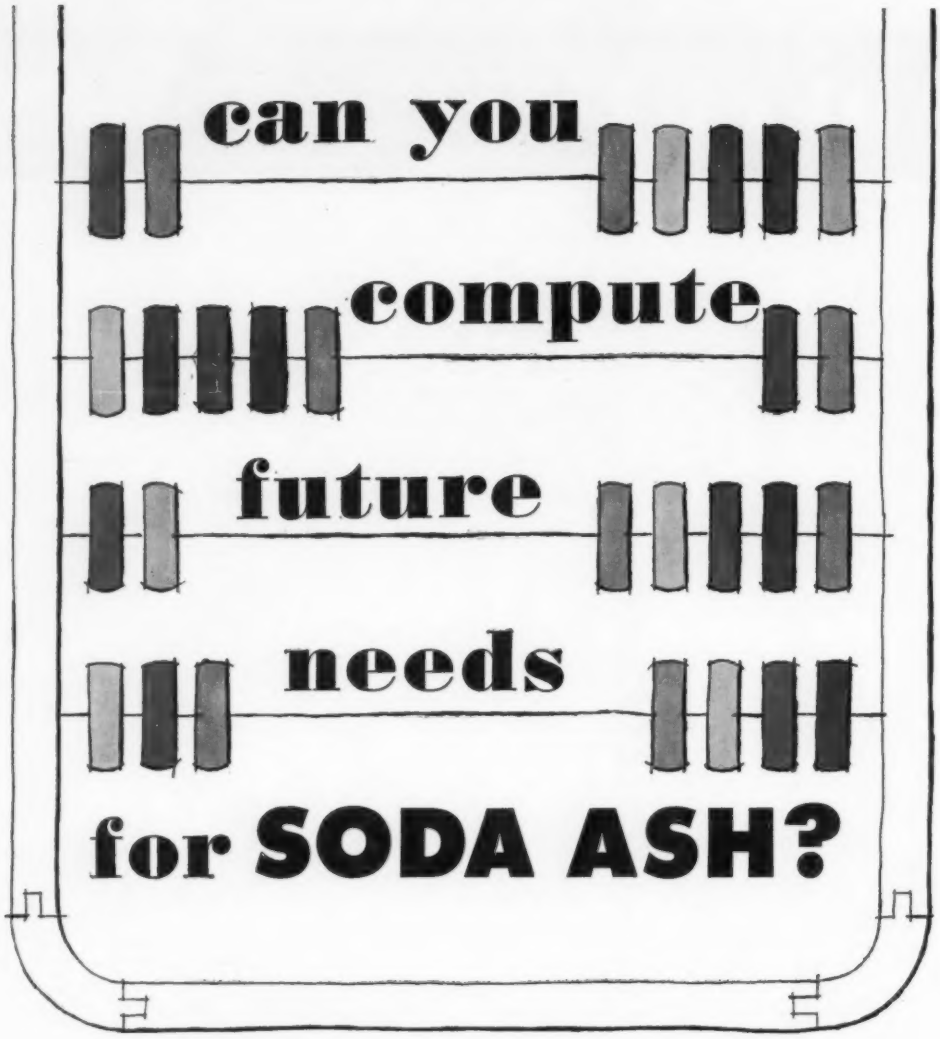

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Illustration By John Tenniel, From "Through The Looking-Glass," By Lewis Carroll

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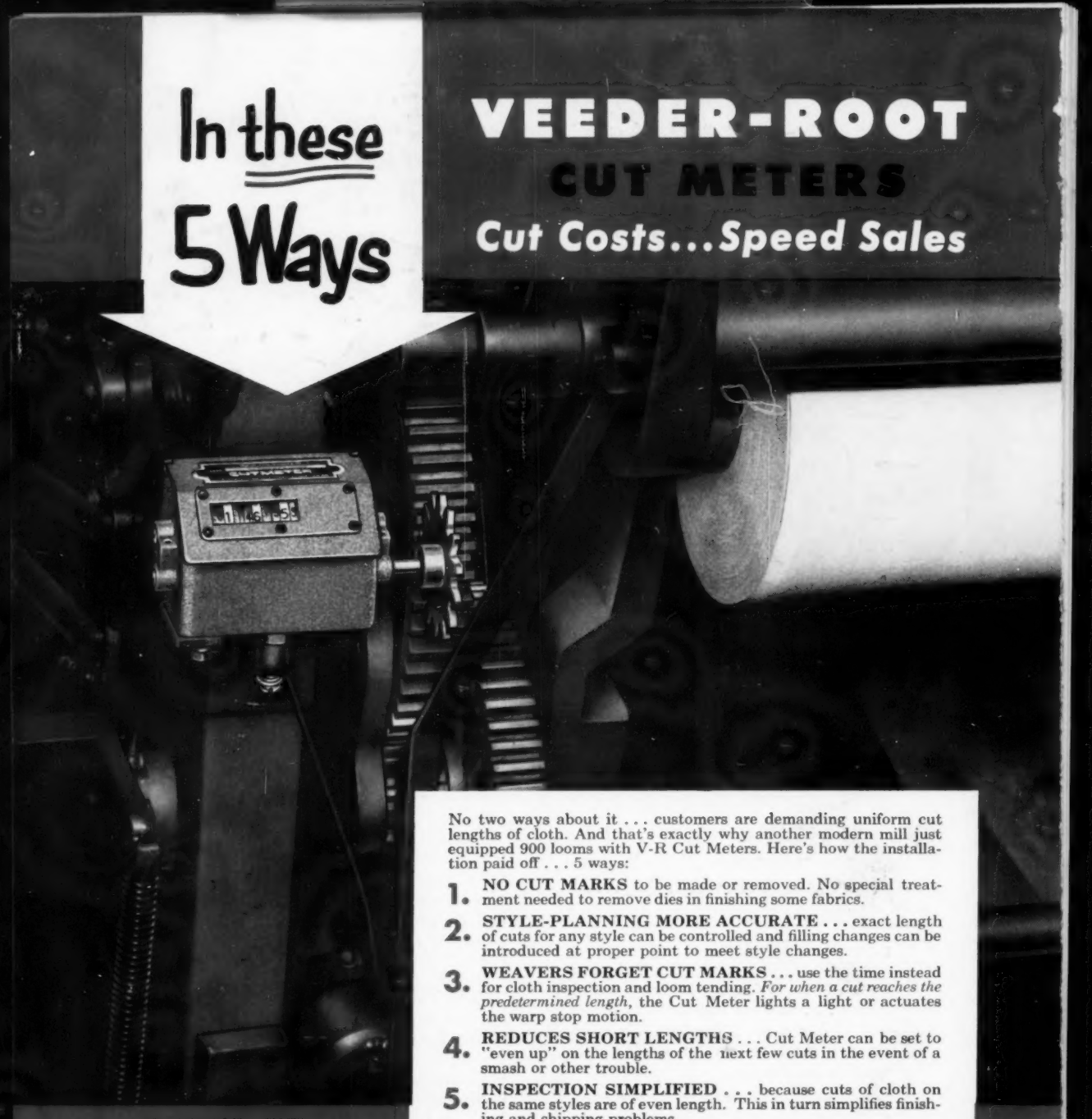

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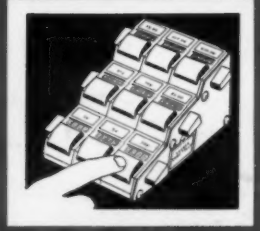

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